ACS-2695 Box PC
User Manual

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Warning!

This equipment generates, uses and can radiate radio frequency energy and if not installed and used in accordance with the instructions manual, it may cause interference to radio communications.
It has been tested and found to comply with the limits for a Class A computing device pursuant to FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference in which case the user at his own expense will be required to take whatever measures may be required to correct the interference.

Electric Shock Hazard – Do not operate the machine with its back cover removed. There are dangerous high voltages inside.

Disclaimer

This information in this document is subject to change without notice. In no event shall Aplex Technology Inc. be liable for damages of any kind, whether incidental or consequential, arising from either the use or misuse of information in this document or in any related materials.

Packing List

Accessories (as ticked) included in this package are:
☐ AC power cable ☐ Driver & manual CD disc ☐ Other._____(please specify)

Safety Precautions

Follow the messages below to avoid your systems from damage:

- ◆ Avoid your system from static electricity on all occasions.
- ◆ Prevent electric shock. Don‘t touch any components of this card when the card is power-on. Always disconnect power when the system is not in use.
- ◆ Disconnect power when you change any hardware devices. For instance, when you connect a jumper or install any cards, a surge of power may damage the electronic components or the whole system.

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Chapter 1 Getting Started

1.1 Specifications

Specs	ACS-2695
CPU	Socket G2, 2nd Generation Intel Core i7/i5/i3, up to i7 2620M
System Chipset	Intel QM67 PCH
System Memory	2 x 204 Pin DDR3 SO-DIMM, default 4GB (one slot), up to 16GB 1066/1333MHz
External I/O Port	2 x DB9 RS-232 (COM1.2) 1 x DVI-I 2 x RJ45 GbE LAN 4 x USB 2.0 1 x Mic-in, Line-Out 1 x DC Power 3 Pin terminal block connector 1 x 2 pin power switch connector 1 x Power button switch 1 x COM RS-422/485 (COM3, default:RS-485) 1 x COM RS-232 (COM4) 1 x 10 Pin terminal block for 1 Ground/VCC/ 4 in & out DIDO
Expansion Slots	1 x PCIe x16 and 1 x PCI Slot
Storage	2 x 2.5" SATA HDD Space 1 x External CF Slot
Power Supply	9~32V DC, AC Power Input for option
Construction / Color	Steel and Aluminum Heatsink
Mounting	Wall Mount, Din Rail Mount for option
Dimensions(WxHxD)	211.2x203.5x155 mm 211.2x203.5x177 mm (with DVD Device)
Net Weight	5.9kgs
Operating Temperature	0~50 ˚C
Storage Temperature	-20~60 °C
Storage Humidity	10%~90%@ 40℃, non-condensing
Vibration	5G, 5-500MHz, 3 Axes (with CF or SSD) 0.5G 5-500MHz, 3 Axes (with HDD)
Shock	50G Half sine (11 msec. duration)/operation with SSD
Drop	92cm (1 Corner, 3 Edge, 6 Surface)
Certificate	CE / FCC Class A

1.2 Dimensions

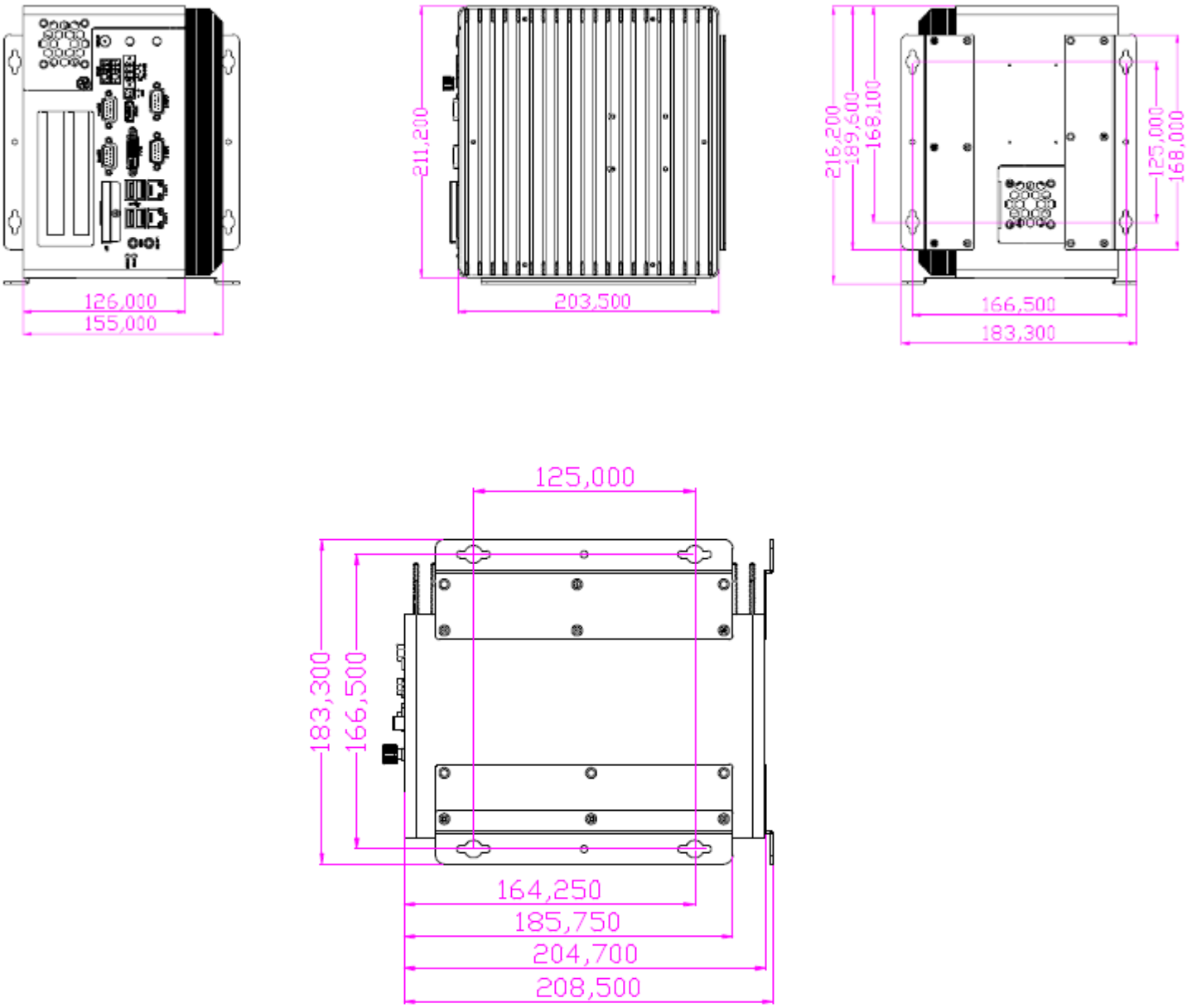


Figure 1.1: Dimensions of the ACS-2695 (DC input)

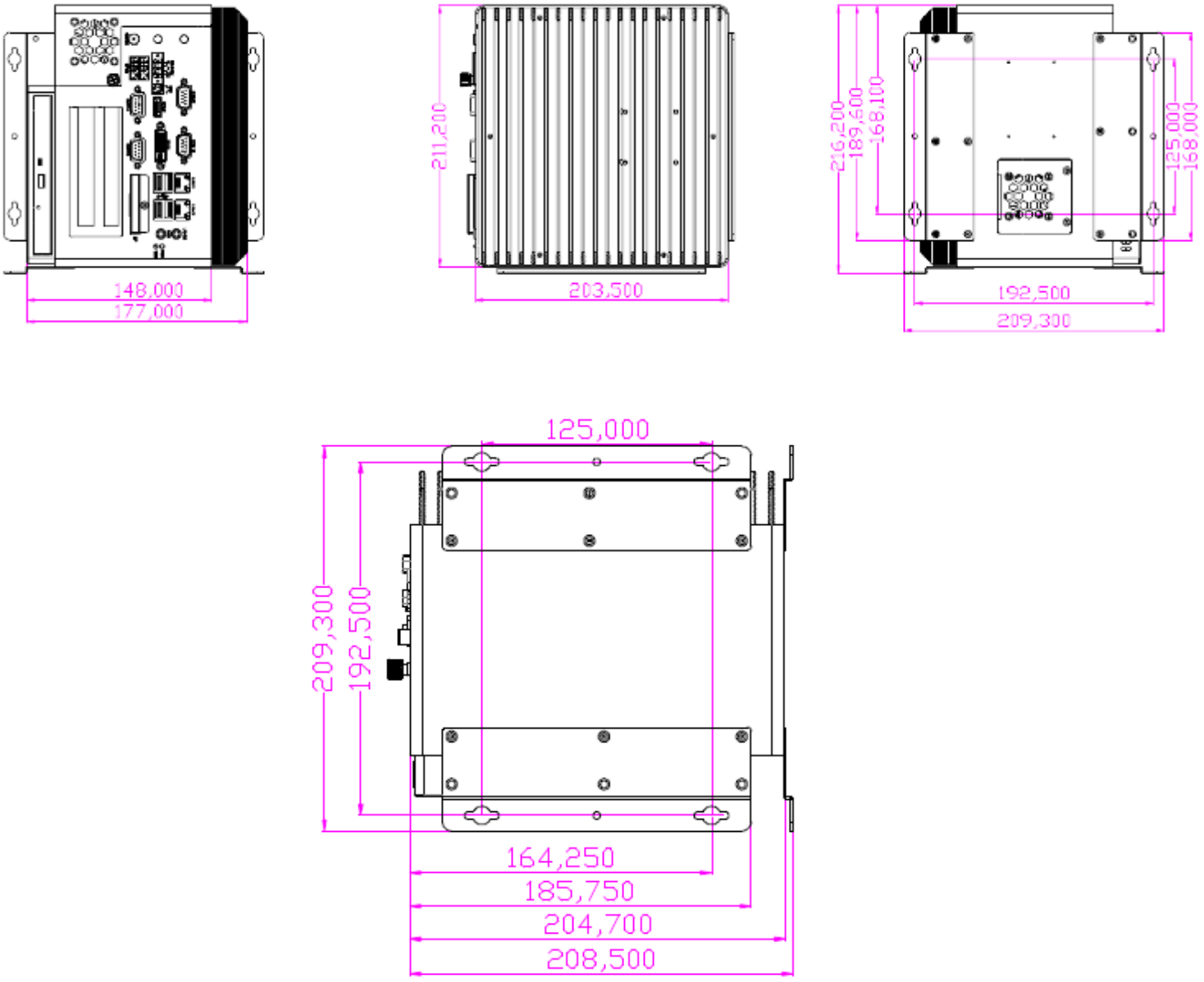


Figure 1.2: Dimensions of the ACS-2695 (DC input with DVD Device)

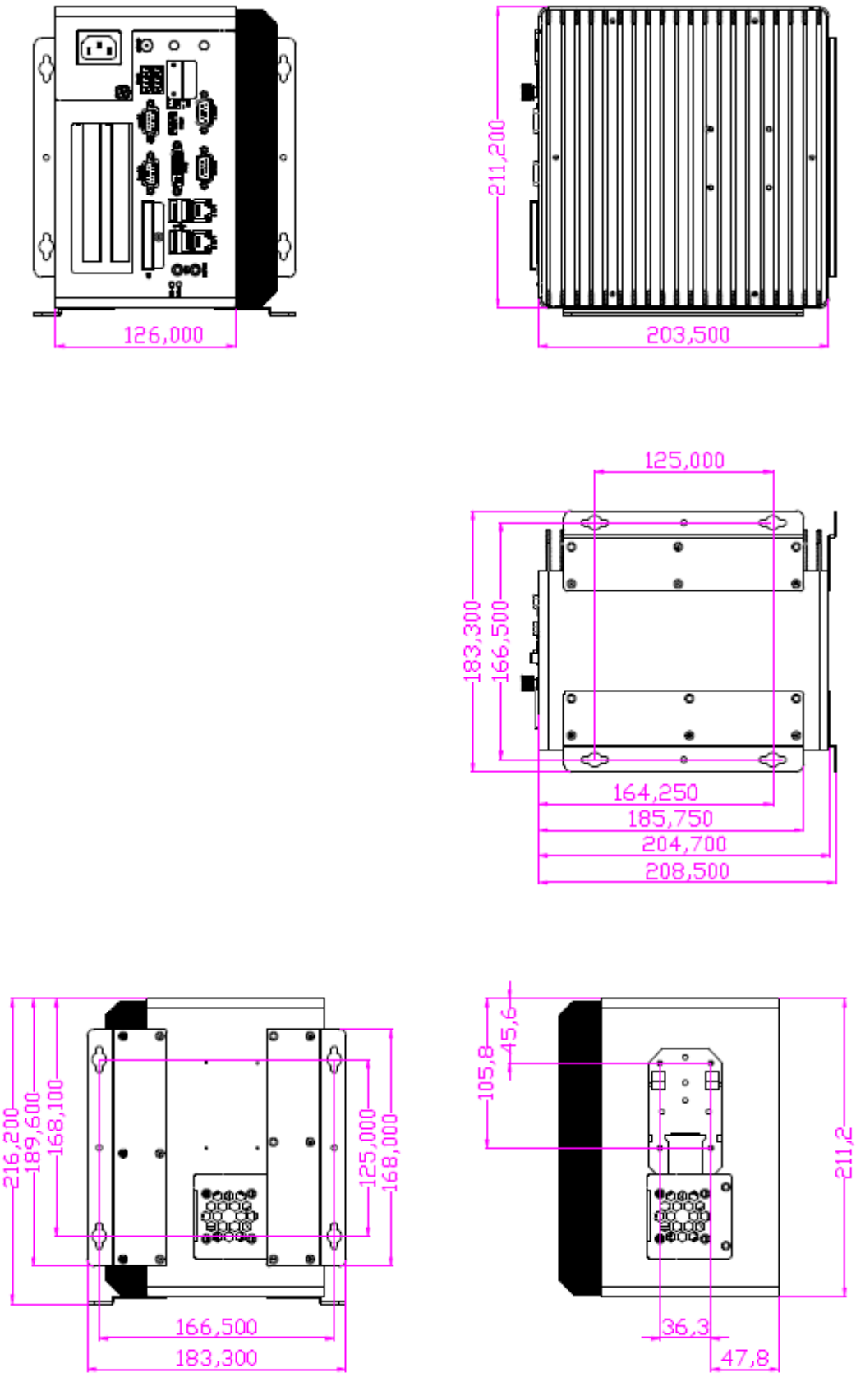


Figure 1.3: Dimensions of the ACS-2695 (AC input)

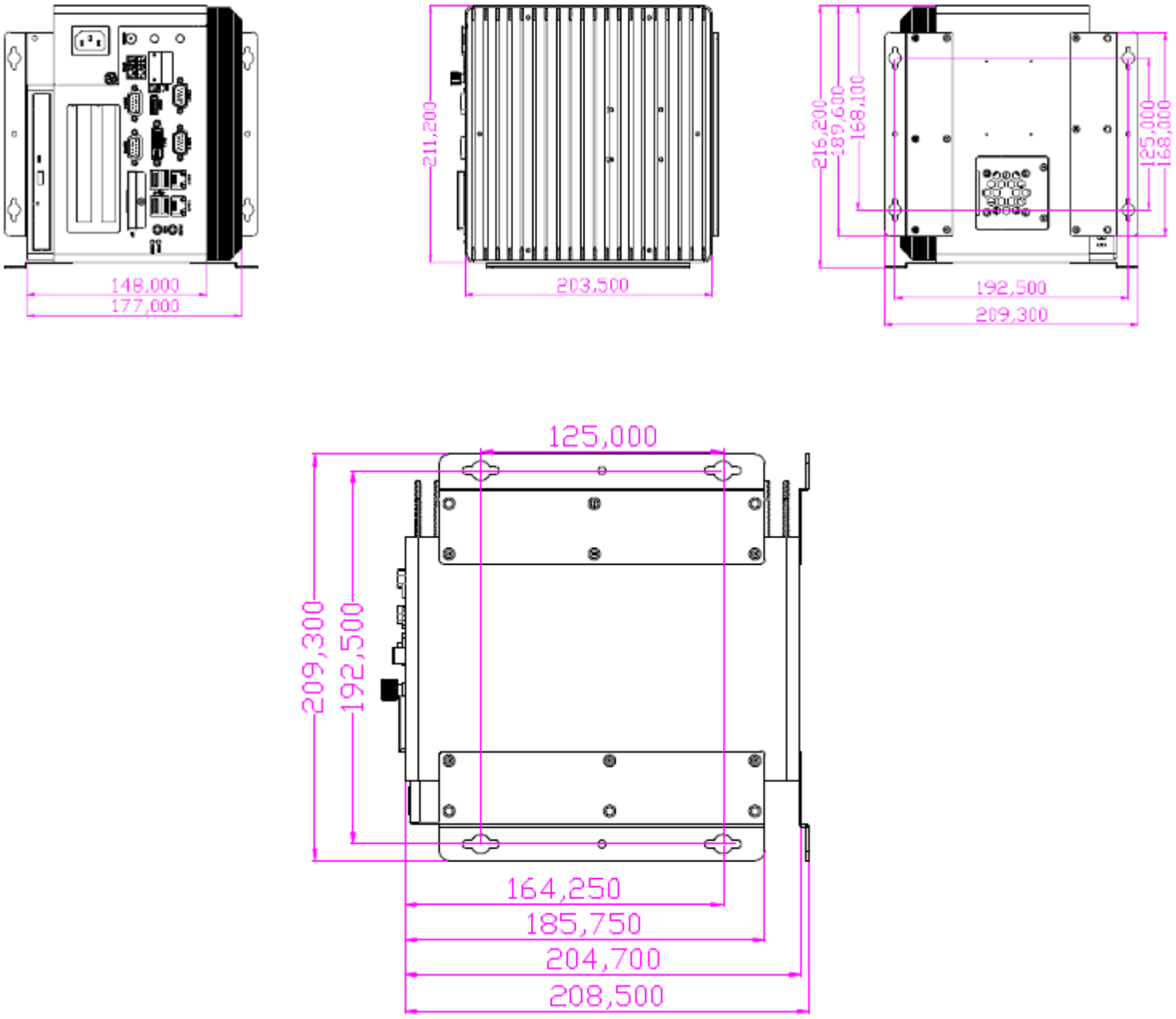


Figure 1.4: Dimensions of the ACS-2695 (AC input with DVD Device)

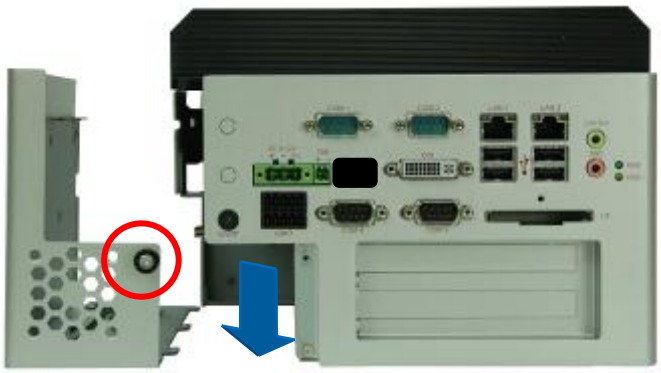
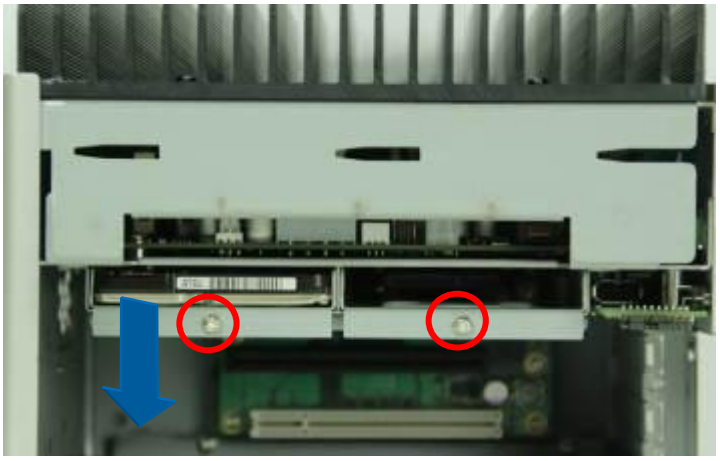
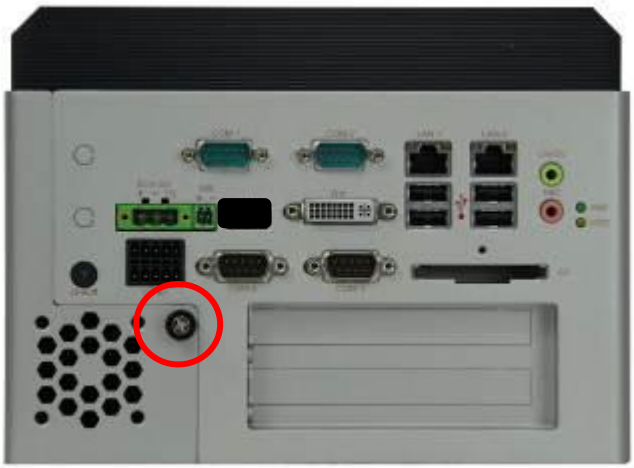
1.3 Brief Description of the ACS-2695

The ACS-2695 is a Fan-less High-efficiency Thermal Solution Box PC, powered by Socket G2, 2nd Generation Intel Core i7/i5/i3 processor and supporting 4 x USB 2.0 ports, 4 x COM Ports, 1 x DVI-I, support 2 x SATA HDD space, 1 x external CF slot, 9~32V wide-ranging power input etc. It is ideal for Industrial Automation, Factory Automation, Machine Vision, Process Control, Data Terminal, TI, Surveillance, etc. and running factory operations from small visual interface and maintenance applications to large control process applications. The ACS-2695 works very well along with any of our Display series and it absolutely can provide an easy way to perform control and field maintenance.

Figure 1.5: Left-front View of ACS-2695

Figure 1.6: Right-front View of ACS-2695

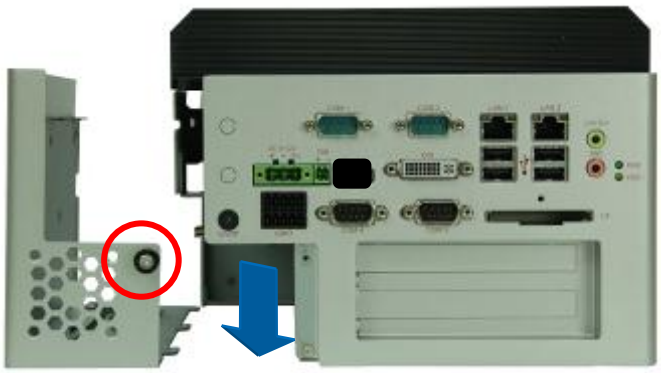
1.4 Installation of HDD

Step 1 There is one screw which connects to the chassis. Pull out the chassis towards the I/O side after unscrewing as shown in the picture ACS-2695	
Step 2 There are 2 screws to deal with when enclosing or removing the HDD bracket as shown in the picture ACS-2695 Loosen screw and draw the HDD bracket out as shown in the picture ACS-2695	
Step 3 Tighten the 1 screw as shown in the picture. That's how it should look after it has been installed.	

1.5 Installation of PCI Add-on

Step 1

There is one screw which connects to the chassis. Pull out the chassis towards the I/O side after unscrewing as shown in the picture ACS-2695

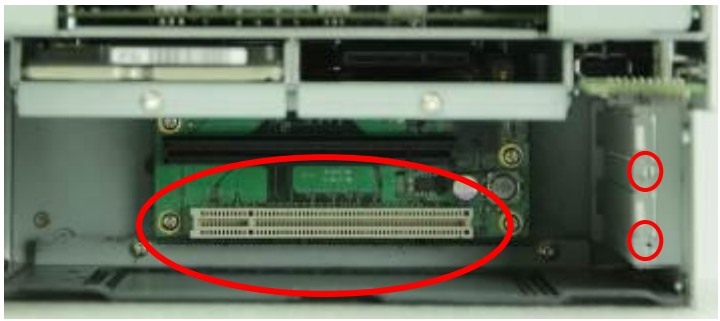


Step 2

Now slide the add on into the PCI slot, making sure the golden part faces the slot. When the part that is interfaced together come into the right contact, slightly push the add on into the rail of the slot.

After sliding the add on into the PCI expansion slot, get the one screw as circled tightened to finish the connection.

** Half Expansion-card limit to be not more than 175mm length



Step 3

Tighten the 1 screw as shown in the picture. That's how it should look after it has been installed.

1.6 Installation of Wall Mount Bracket

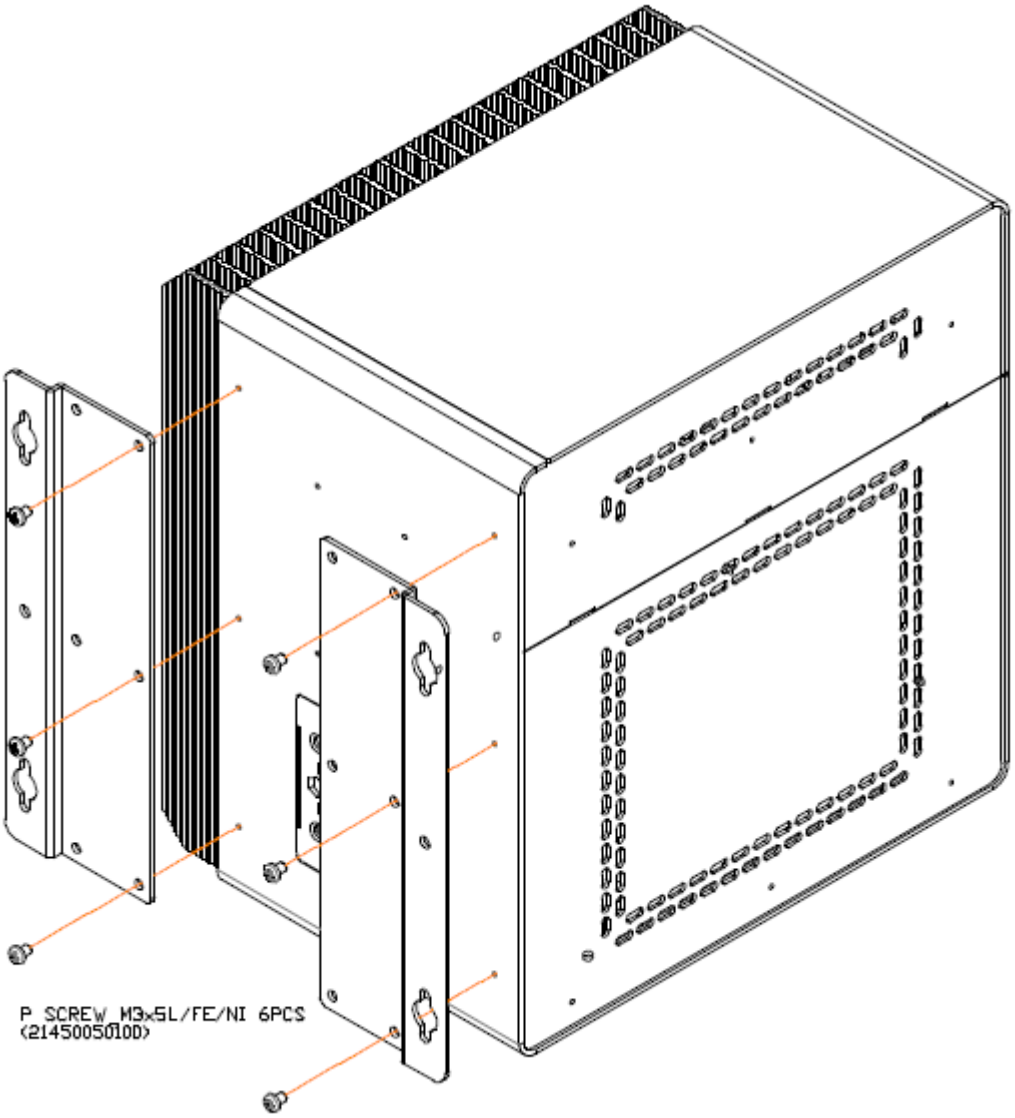


Figure 1.7: Wall Mount of ACS-2695 Type 1

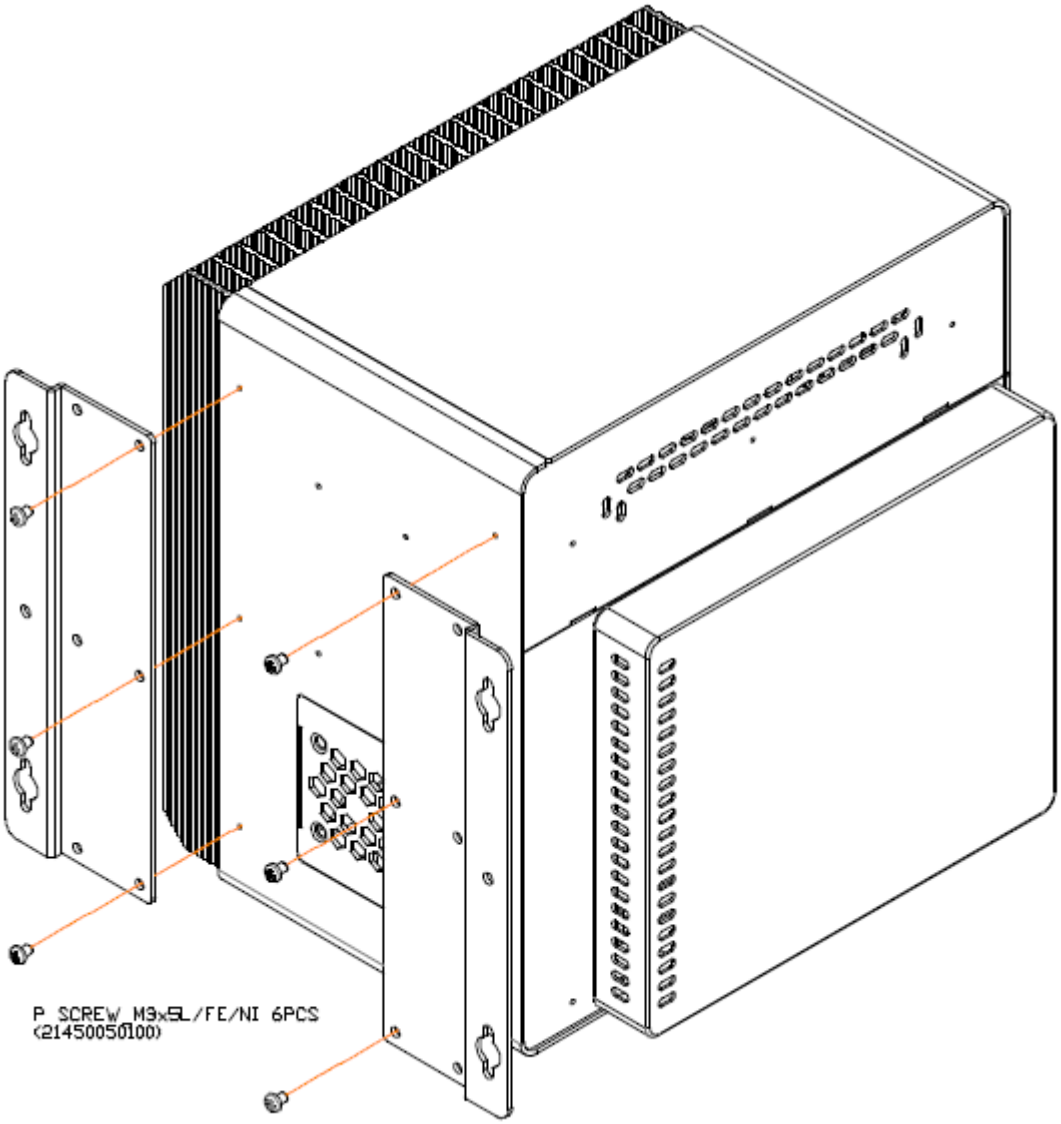


Figure 1.8: Wall Mount of ACS-2695 with DVD Device Type 2

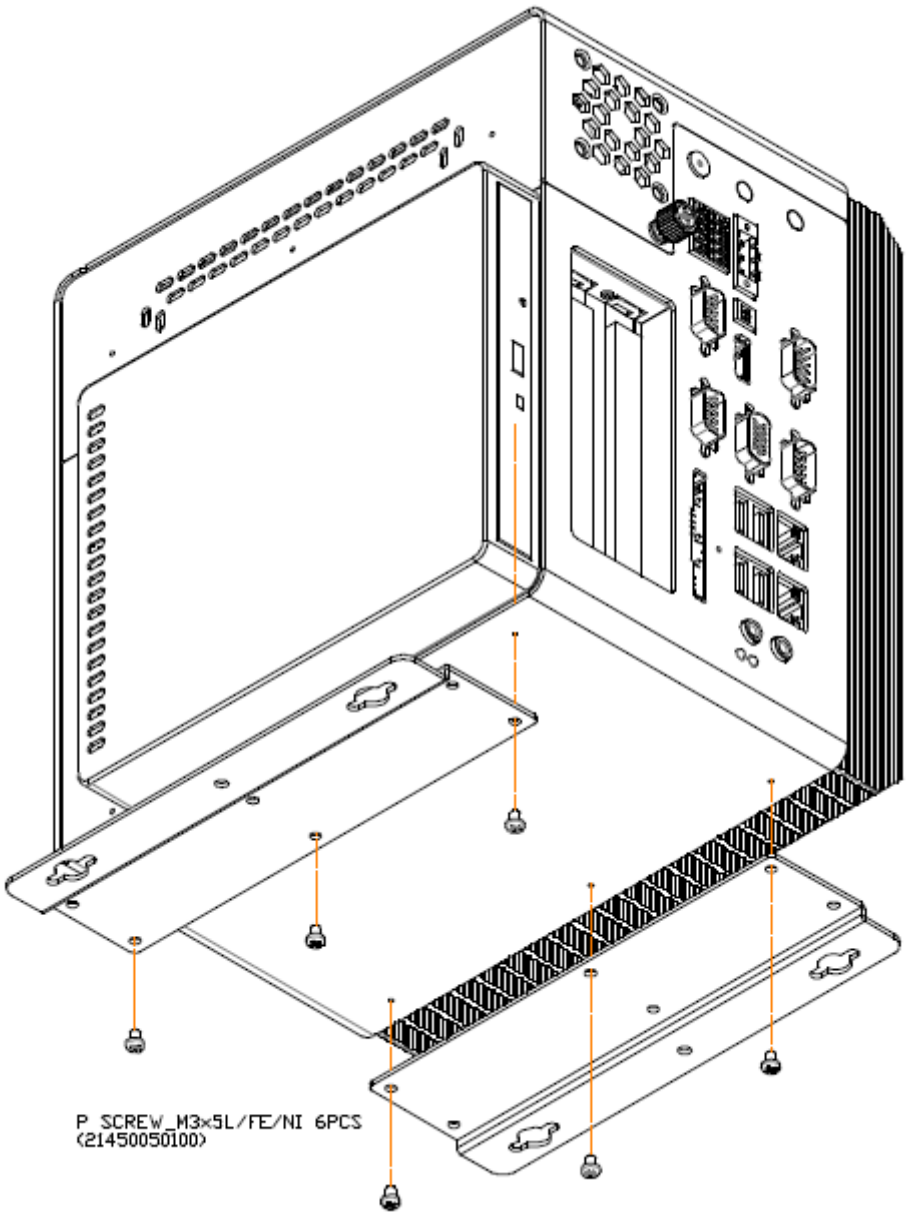


Figure 1.9: Wall Mount of ACS-2695 with DVD Device Type 3

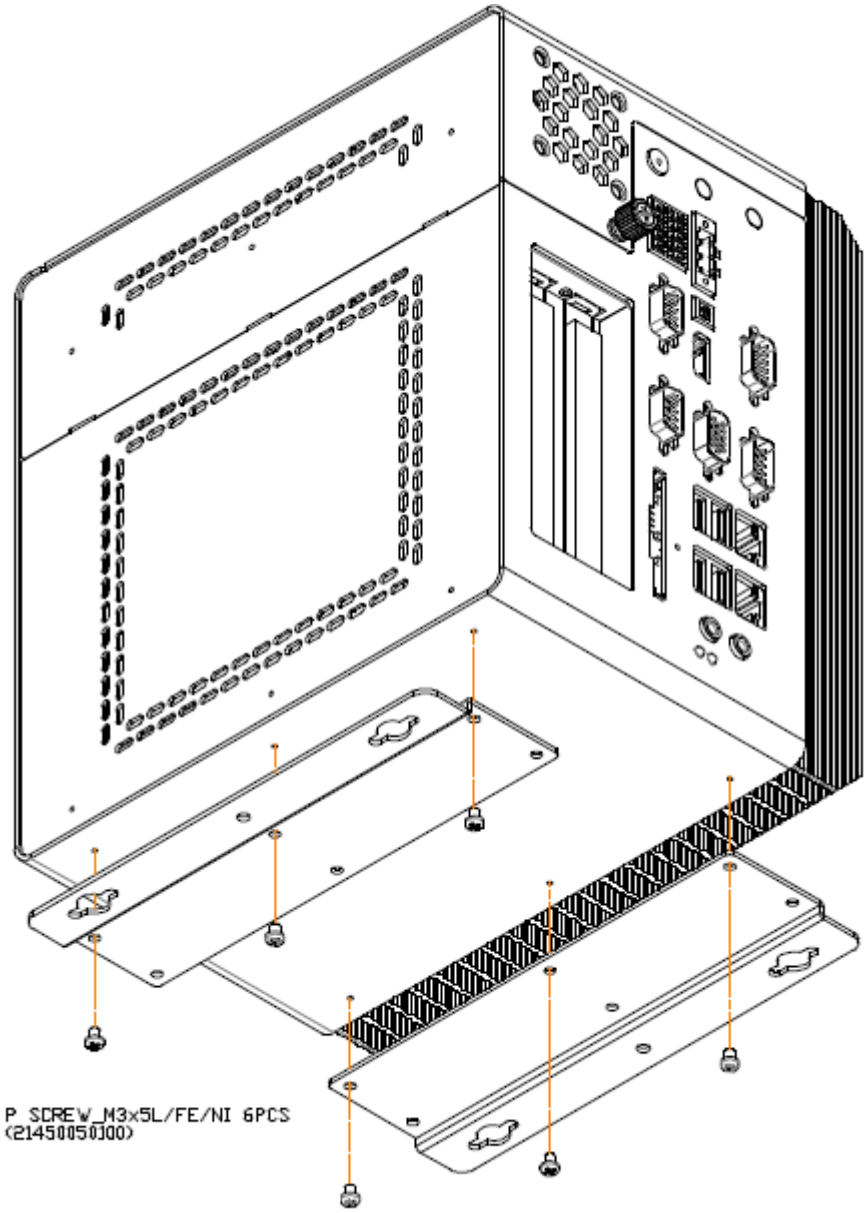


Figure 1.10: Wall Mount of ACS-2695 Type 4

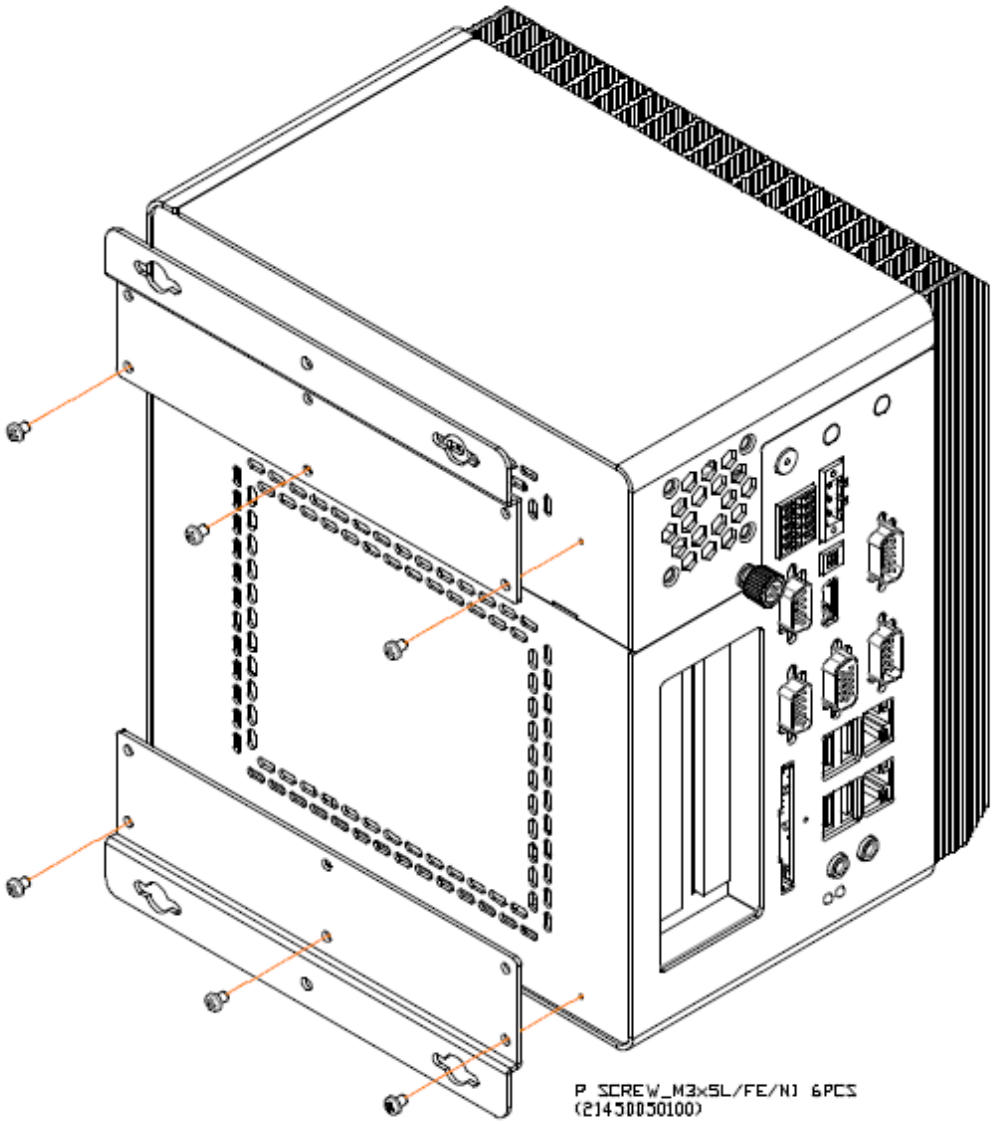


Figure 1.11: Wall Mount of ACS-2695 Type 5

Chapter 2 Hardware Installation

2.1 Mainboard Specifications

Figure 2.1: Mainboard Overview

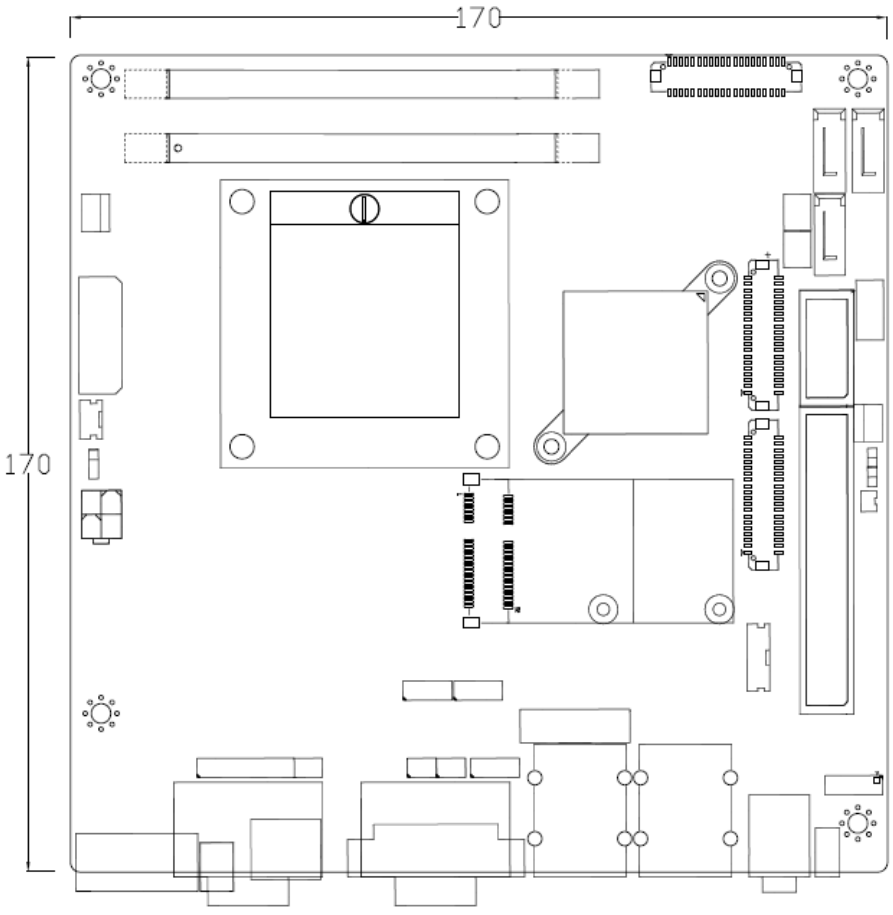


Figure 2.2: Mainboard Dimensions

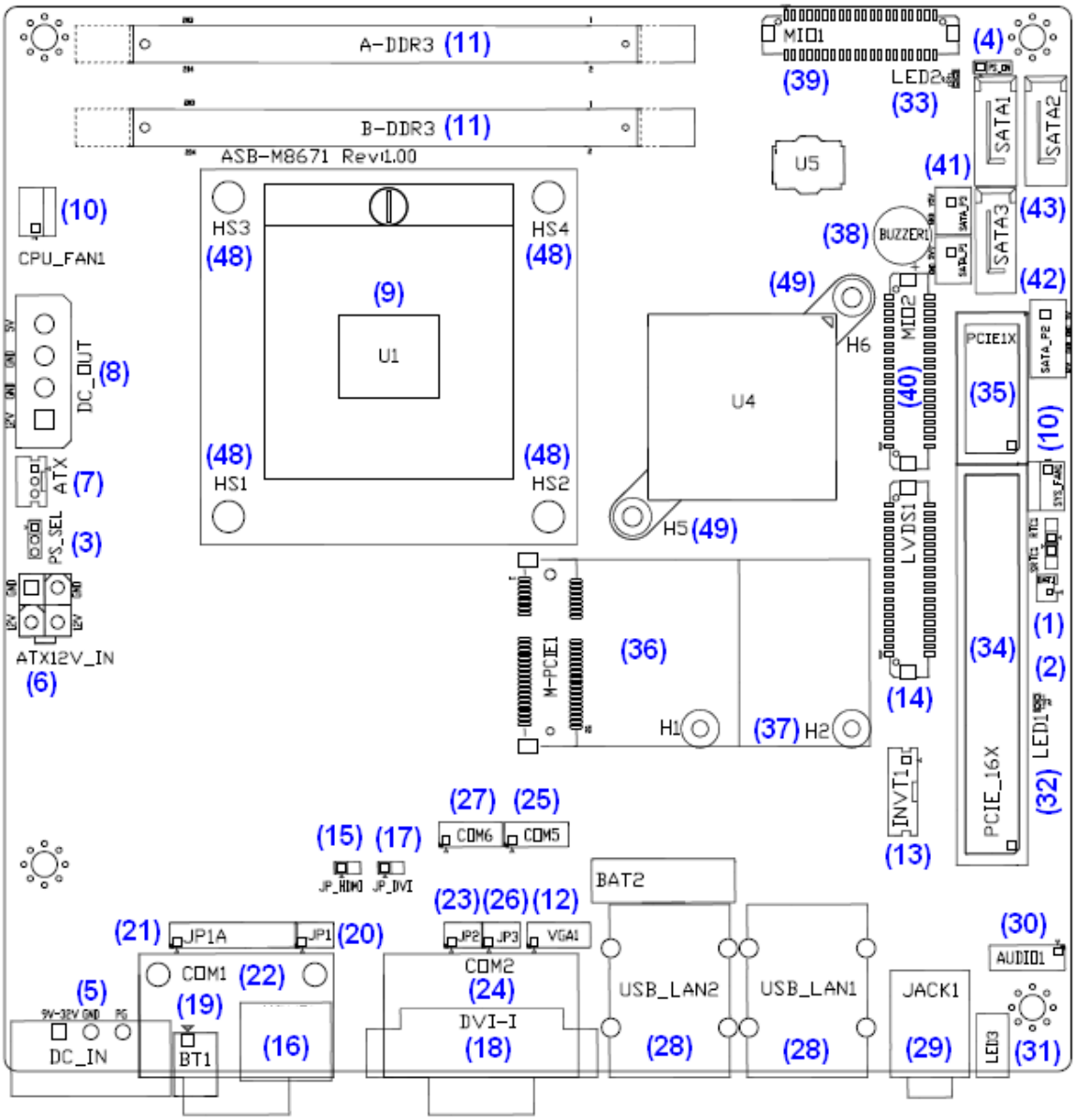


Figure 2.3: Jumpers and Connectors Location-TOP

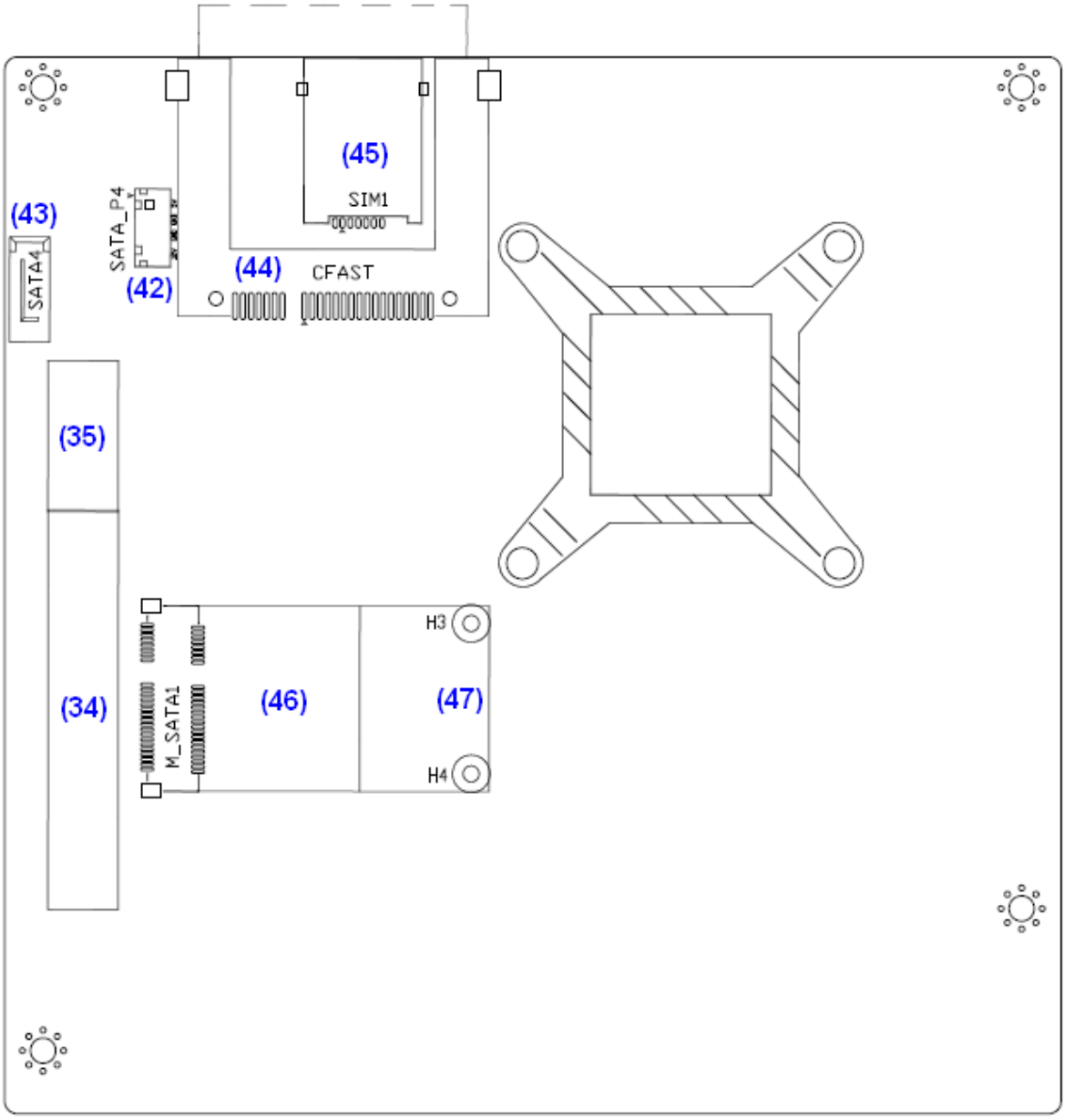


Figure 2.4: Jumpers and Connectors Location- Bottom

Specifications	
Board Size	170mm x 170mm
CPU Support	Support Socket G2,2nd Gen Intel Core i3/i5/i7 Processor
Chipset	Intel QM67
Memory Support	2 x SO-DIMM (204pins), up to 16GB DDRIII 1066/1333/1600MHz FSB
Graphics	Intel HD Grapics 2000/3000
Super I/O	Winbond W83627UHG
BIOS	AMIBIOS 16M
Storage	1 x SATA2.0 Connector 1 x SATA2.0 Connector (option) 2 x SATA3.0 Connector 1 x CFAST Slot (option) 1 x MSATA Connector (option)
Ethernet	2 x PCIe Gbe LAN by Intel 82574L
USB	4 x USB 2.0 stack ports for external 3 x USB 2.0 box Pin header for MIO1 4 x USB 2.0 box Pin header for MIO2 1 x USB 2.0 internal for mini PCIe
Serial	1 x RS232/422/485 port, DB9 connector for external (COM1) pin 9 w/5V/12V/Ring select 1 x RS232 port, DB9 connector for external (COM2) pin 9 w/5V/12V/Ring select 1 x RS232 header for internal (COM5) 1 x RS232 header for internal (COM6), pin 9 w/5V/12V select I/O Card TB-522 (option): 1 x 422/485 select header for internal MIO1 (COM3) 1 x RS232 header for internal MIO1 (COM4) I/O Card TB-523 (option): 1 x 422/485 select header for internal MIO1 (COM3) 1 x RS232/422/485 select header for internal MIO1 (COM4)
Digital I/O	8-bit digital I/O by Pin header by MIO2 4-bit digital Input 4-bit digital Output
Battery	Support CR2477 Li battery by 2-pin header Support CR2032 Li battery (option)
Audio	Support Audio via Realtek ALC662 HD audio codec

	Support Line-out, MIC by JACK1 Support Line-in, Line-out, MIC by 2x6-pin header
Keyboard /Mouse	PS2 K/B and Mouse by MIO2 1 x PS/2 keyboard 1 x PS/2 mouse
Expansion Bus	1 x PCI-express x16 extend by 4x30 pin socket 2 x PCI-express x1 extend by 4x10 pin socket 1 x mini-PCI-express slot 1 x CRT 2x5 Pin Header
Power Management	1 x 3-pin power input connector (Wide range DC+9V~32V) 1 x ATX Power Input （2x2Pin and 3Pin, option） DC5V/12V output by 1x4 pin Connectors
Switches and LED Indicators	Power on/off switch by TB-522 or TB-523 Reset switch by MIO2 Power LED status by MIO2 HDD LED status by MIO2
External I/O port	2 x COM Ports (COM1/COM2) 4 x USB 2.0 Ports (stack) 2 x RJ45 GbE LAN Ports 1 x DVI-I Port 1 x Audio Ports (Mic, Line out)
Watchdog Timer	Software programmable 1 – 255 second by Super I/O
Temperature	Operating: -20℃ to 70℃ Storage: -40℃ to 85℃
Humidity	10% - 90%, non-condensing, operating
Power Consumption	12V/3.80A (Intel i5-2430M 2.4GHz Processor with 4GB DDR3) 19V/2.0A (Intel i5-2540 2.6GHz Processor with 8GB DDR3) 19V/2.2A(Intel i7-2620 2.7GHz Processor with 8GB DDR3)
EMI/EMS	Meet CE/FCC class A

2.2 Jumpers Setting and Connectors

1. RTC1/SRTC1:

(2.0mm Pitch 1X2 Pin Header)CMOS clear jumper, CMOS clear operation will permanently reset old BIOS settings to factory defaults.

RTC1/SRTC1	CMOS
Open or （RTC1Pin1-SRTC1 Pin close）	NORMAL (Default)
Close 1-2	Clear CMOS

Procedures of CMOS clear:

a) Turn off the system and unplug the power cord from the power outlet.
b) To clear the CMOS settings, use the jumper cap to close pins1 and 2 for about 3 seconds then reinstall the jumper clip back to pins open.
c) Power on the system again.
d) When entering the POST screen, press the <DEL> key to enter CMOS Setup Utility to load optimal defaults.
e) After the above operations, save changes and exit BIOS Setup.

2. BAT1 :

(1.25mm Pitch 1X2 box Pin Header) 3.0V Li battery is embedded to provide power for CMOS.

Pin#	Signal Name
Pin1	VBAT
Pin2	Ground

3. PS_SEL:

(2.0mm Pitch 1X3 Pin Header),ATX Power and AT Power jumper setting**.**

PS_SEL	Mode
Close 1-2	**ATX Power (Default)**
Close 2-3	AT Power

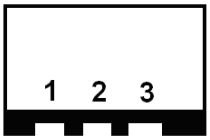
4. PS_ON:

(2.0mm Pitch 1X3 Pin Header),ATX Power and Auto Power on jumper setting**.**

PS_ON	Mode
Close 1-2	**Auto Power on (Default)**
Close 2-3	ATX Power

5. DCIN:

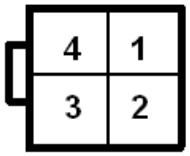
(5.08mm Pitch 1x3 Pin Connector),DC9V ~ DC32V System power input connector。



Pin#	Power Input
Pin1	DC+9V~32V
Pin2	Ground
Pin3	FG

6. ATX12V_IN (ATX Power option)**:**

(2x2 Pin Connector),DC12V System power **input** connector.



Pin#	Power input
Pin1	Ground
Pin2	Ground
Pin3	DC+12V
Pin4	DC+12V

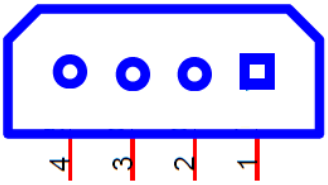
7. ATX (ATX Power option):

(2.0mm Pitch 1X3 box Pin Header), connect PSON and 5VSB and Ground signal,support ATX Power model. **Reserved**.

Pin#	Signal Name
Pin1	ATX PSON
Pin2	ATX Ground
Pin3	ATX 5VSB

8. DC_OUT:

(2x2 Pin Connector),DC12V and DC5V System power **output** connector.



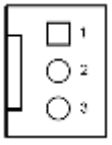
Pin#	Power output
Pin1	DC+12V
Pin2	Ground
Pin3	Ground
Pin4	DC+5V

9. U1:

(Socket G2), installing the 2nd GEN intel Core i3/i5/i7CPU Socket.

10. CPU_FAN1/SYS_FAN1:

(2.54mm Pitch 1x3 Pin Header),Fan connector, cooling fans can be connected directly for use. You may set the rotation condition of cooling fan in menu of BIOS CMOS Setup.



Pin#	Signal Name
1	Ground
2	VCC

3	Rotation detection

Note:

Output power of cooling fan must be limited under 5W.

11. A-DDR3/B-DDR3:

(SO-DIMM 204Pin socket), DDRIII memory socket, the socket is located at the top of the board and supports 204Pin 1.5V DDRIII 1066/1333/1600MHz FSB SO-DIMM memory module up to 16GB.

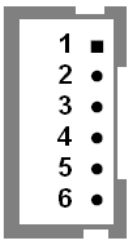
12. VGA1:

(CRT 2.0mm Pitch 2X5 Pin Header), Video Graphic Array Port, Provide 2x5Pin cable to VGA Port.

Signal Name	Pin#	Pin#	Signal Name
CRT_RED	1	2	Ground
CRT_GREEN	3	4	Ground
CRT_BLUE	5	6	Ground
CRT_H_SYNC	7	8	CRT_DDCDATA
CRT_V_SYNC	9	10	CRT_DDCCLK

13. INVT1:

(2.0mm Pitch 1x6 box Pin Header), Backlight control connector for LVDS1.



Pin#	Signal Name
1	+DC12V
2	+DC12V
3	Ground
4	Ground
5	BKLT_EN

6	BKLT_CTRL

Note:

Pin6 is backlight control signal, support DC or PWM mode, mode select at BIOS CMOS menu.

14. LVDS1:

(1.25mm Pitch 2x20 Connector), For 18/24-bit LVDS output connector, Fully supported by Intel QM67 chipset, the interface features dual channel 18/24-bit output.

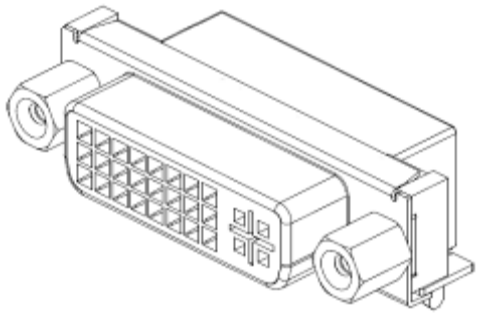
Signal Name	Pin#	Pin#	Signal Name
VDD5	2	1	VDD5
Ground	4	3	Ground
VDD33	6	5	VDD33
LB_D0_N	8	7	LA_D0_N
LB_D0_P	10	9	LA_D0_P
Ground	12	11	Ground
LB_D1_N	14	13	LA_D1_N
LA_D1_P	16	15	LA_D1_P
Ground	18	17	Ground
LB_D2_N	20	19	LA_D2_N
LB_D2_P	22	21	LA_D2_P
Ground	24	23	Ground
LB_CLK_N	26	25	LA_CLK_N
LB_CLK_P	28	27	LA_CLK_P
Ground	30	29	Ground
LVDS_DDC_DAT	32	31	LVDS_DOC_CLK
Ground	34	33	Ground
LB_D3_N	36	35	LA_D3_N
LB_D3_P	38	37	LA_D3_P
NC	40	39	NC

17. JP_DVI:

(2.0mm Pitch 1x2 Pin Header), Reserved.

18. DVI-I:

(DVI-I Connector), Digital Visual Interface-Integrated connector.



19. BT1:

POWER on/off Button, They are used to connect power switch button. The two pins are
disconnected under normal condition. You may short them temporarily to realize system
startup & shutdown or awaken the system from sleep state.

20. JP1:

(2.0mm Pitch 2x3 Pin Header),COM1 jumper setting, pin 1~6 are used to select signal out of pin 9 of COM1 port.

JP1 Pin#	Function
Close 1-2	**COM1 RI (Ring Indicator) (default)**
Close 3-4	COM1 Pin9=+5V (option)
Close 5-6	COM1 Pin9=+12V (option)

21. JP1A:

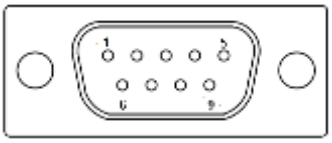
(2.0mm Pitch 2x10 Pin Header),COM1 jumper setting, it provides selectable RS232 or RS422 or RS485 serial signal output.

Function	JP1A Pin#
RS232	**Close:**

(Default)	**Pin1-3, Pin2-4, Pin7-9, Pin8-10, Pin13-14**
RS422 (option)	Close: Pin3-5, Pin6-8, Pin9-11, Pin10-12, Pin17-18
RS485 (option)	Close: Pin3-5, Pin6-8, Pin9-11, Pin10-12, Pin15-16 Pin19-20

22. COM1:

(Type DB9),Rear serial port, standard DB9 Male serial port is provided to make a direct connection to serial devices.



RS232 (Default):	
Pin#	Signal Name
1	DCD# (Data Carrier Detect)
2	RXD (Received Data)
3	TXD (Transmit Data)
4	DTR (Data Terminal Ready)
5	Ground
6	DSR (Data Set Ready)
7	RTS (Request To Send)
8	CTS (Clear To Send)
9	**JP1 select Setting (RI/5V/12V)**

RS422 (option):	
Pin#	Signal Name
1	422_R+
2	422_R-
3	422_T-
4	422_T+
5	Ground
6	NC

7	NC
8	NC
9	NC

RS485 (option):	
Pin#	Signal Name
1	NC
2	NC
3	485-
4	485+
5	Ground
6	NC
7	NC
8	NC
9	NC

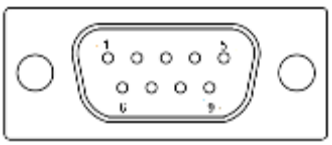
23. JP2:

(2.0mm Pitch 2x3 Pin Header),COM2 jumper setting, pin 1~6 are used to select signal out of pin 9 of COM2 port.

JP2 Pin#	Function
Close 1-2	**COM2 RI (Ring Indicator) (default)**
Close 3-4	COM2 Pin9=+5V (option)
Close 5-6	COM2 Pin9=+12V (option)

24. COM2:

(Type DB9),Rear serial port, standard DB9 Male serial port is provided to make a direct connection to serial devices.



Pin#	Signal Name
1	DCD# (Data Carrier Detect)
2	RXD (Received Data)

3	TXD (Transmit Data)
4	DTR (Data Terminal Ready)
5	Ground
6	DSR (Data Set Ready)
7	RTS (Request To Send)
8	CTS (Clear To Send)
9	**JP2 select Setting (RI/5V/12V)**

25. COM5:

(2.0mm Pitch 2X5 Pin Header),COM5 Port, standard RS232 ports are provided. They can be used directly via COM cable connection.

Signal Name	Pin#	Pin#	Signal Name
DCD	1	2	RXD
TXD	3	4	DTR
Ground	5	6	DSR
RTS	7	8	CTS
RI	9	10	NC

26. JP3:

(2.0mm Pitch 1x3 Pin Header) COM6 setting jumper, pin 1~3 are used to select signal out of pin 9 of COM6 port.

JP3 Pin#	Function
Close 1-2	**COM6 RI (Ring Indicator) (default)**
Close 3-4	COM6 Pin9=+5V (option)
Close 5-6	COM6 Pin9=+12V (option)

27. COM6:

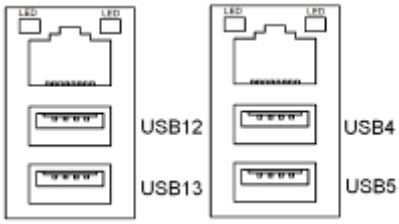
(2.0mm Pitch 2x5 Pin Header), COM6 Port, standard RS232 ports are provided. They can be used directly via COM cable connection. COM6 port is controlled by pins No.1~3 of JP3,select output Signal 5V or 12v, For details, please refer to description of **JP3**.

Signal Name	Pin#	Pin#	Signal Name

DCD	1	2	RXD
TXD	3	4	DTR
Ground	5	6	DSR
RTS	7	8	CTS
JP3select Setting (RI/5V/12V)	9	10	NC

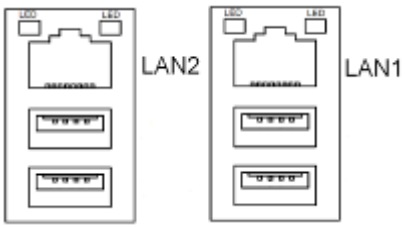
28. USB_LAN1/USB_LAN2:

USB4/USB5/USB12/USB13：(Double stack USB type A), Rear USB connector, it provides up to 4 USB2.0 ports, speed up to 480Mb/s.



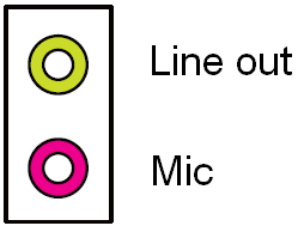
Each USB Type A Receptacle (2 Ports) Current limited value is 1.5A.
If the external USB device current exceeds 1.5A, please separate connectors into different Receptacle.

LAN1/LAN2: (RJ45 Connector), Rear LAN port, Two standard 10/100/1000M RJ-45 Ethernet ports are provided. Used Intel 82574L chipset, LINK LED (green) and ACTIVE LED (yellow) respectively located at the left-hand and right-hand side of the Ethernet port indicate the activity and transmission state of LAN.



29. JACK1:

(Diameter 3.5mm Double stack Jack), HD Audio port, An onboard Realtek ALC662 codec is used to provide high quality audio I/O ports. Line Out can be connected to a headphone or amplifier, MIC is the port for microphone input audio.



30. AUDIO1:

(2.0mm Pitch 2X6 Pin Header), Front Audio, An onboard Realtek ALC662 codec is used to provide high-quality audio I/O ports. Line Out can be connected to a headphone or amplifier. Line In is used for the connection of external audio source via a Line in cable. MIC is the port for microphone input audio.

Signal Name	Pin#	Pin#	Signal Name
SPK_OUTL_P	1	2	SPK_OUTR_P
SPK_OUTL_N	3	4	SPK_OUTR_N
FRONT_JD	5	6	LINE1_JD
LINE_IN_L	7	8	LINE-IN-R
MIC2_IN_L	9	10	MIC2-IN-R
Ground_AUD	11	12	MIC2_JD

31. LED3:

LED STATUS. Green LED for Motherboard Standby Power Good status, Yellow LED for HDD status.

32. LED2:

LED STATUS. Green LED for Motherboard Standby Power Good status.

33. LED1:

LED STATUS. Green LED for Motherboard Power status,

34. PCIE_16X (option):

(4x30 Pin), Riser Card expansion connector. Can expand support one PCIeX16 or two PCIeX8 Signal.
ASB-M8671T：PCIE_16X connector in the top.
ASB-M8671B：PCIE_16X connector in the Bottom.

35. PCIE1X (option):

(4x10 Pin),Riser Card expansion connector.Can expand support two PCIe Signal.
ASB-M8671T：PCIE1X connector in the top.
ASB-M8671B：PCIE1X connector in the Bottom.

MODEL	PCIE16X / PCIE1X
ASB-M8671T	Top
ASB-M8671B	Bottom

36. M-PCIE1:

(Socket 52Pin),mini PCIe socket, it is located at the top, it supports mini PCIe devices with USB2.0, SMBUS and PCIe signal. MPCIe card size is 30x30mm or 30x50.95mm.

37. H1/H2:

MPCIE1 SCREW HOLES, H1 for mini PCIE card (30mmx30mm) assemble. H2 for mini PCIE card (30mmx50.95mm) assemble.

38. BUZZER1:

Onboard buzzer.

39. MIO1:

(DF13-40P Connector),For expand output connector, It provides two RS232 ports or one RS485 port, three USB ports, one power led, one power button, via a dedicated cable connected **to TB-522 MIO1or TB-523 MIO1.**

Function	Signal Name	Pin#	Pin#	Signal Name	Function
COM3 RS422 or RS485	485+ / 422TX+	2	1	422RX+	COM3
	485- / 422TX-	4	3	422RX-	
	3P3V_S0	6	5	Ground	
	WAN_LED	8	7	NC	
	5V_S5	10	9	5V_S5	
COM4	RXD4	12	11	DCD4-	COM4
	DTR4-	14	13	TXD4	
	DSR4-	16	15	Ground	
	CTS4-	18	17	RTS4-	
	5V_S5	20	19	RI4-	
USB10	5V_USB_1011	22	21	5V_S5	USB9
	USB10_N	24	23	USB9_N	
	USB10_P	26	25	USB9_P	
	Ground	28	27	Ground	
	Ground	30	29	Ground	
Power LED	3P3V_S0	32	31	5V_USB_1011	USB11
	PWR_LED-	34	33	USB11_N	
Power Button	MIO_PSON	36	35	USB11_P	
	Ground	38	37	Ground	
	NC	40	39	NC	

40. MIO2:

(DF13-40P Connector),Front panel connector.

Function	Signal Name	Pin#	Pin#	Signal Name	Function
P_LED+	PWR-LED	2	1	HDD_LED	H_LED+
P_LED-	Ground	4	3	USB01_OC-	
PSON+	MIO_PSON-	6	5	USB23_OC-	
PSON-	Ground	8	7	RESET	RESET+
BUZZER-	BUZZER-	10	9	BUZZER+	BUZZER+
GPIO_OUT1	PCH_GPIO68	12	11	PCH_GPIO12	GPIO_IN1
GPIO_OUT2	PCH_GPIO69	14	13	PCH_GPIO15	GPIO_IN2
GPIO_OUT3	PCH_GPIO70	16	15	PCH_GPIO58	GPIO_IN3

GPIO_OUT 4	PCH_GPIO71	18	17	PCH_GPIO75	GPIO_IN4
PS2_Mous e	5V_S5_USB	20	19	Ground	PS2_K/B
	PS2_MSDAT A	22	21	PS2_KBDATA	
	PS2_MSCLK	24	23	PS2_KBCLK	
USB3	5V_S5_USB	26	25	5V_S5_USB	USB2
	USB3_N	28	27	USB2_N	
	USB3_P	30	29	USB2_P	
	Ground	32	31	Ground	
USB1	5V_S5_USB	34	33	5V_S5_USB	USB0
	USB1_N	36	35	USB0_N	
	USB1_P	38	37	USB0_P	
	Ground	40	39	Ground	

Pin1- Ground: **HDD LED**, They are used to connect hard disk activity LED. The LED blinks when the hard disk is reading or writing data.

Pin2- Pin4: **POWER LED**, They are used to connect power LED. When the system is
powered on or under S0/S1 state, the LED is normally on, when the system is
under S4/S5 state, the LED is off.

Pin3: **USB01 OC-**, “USB01_OC-“ Signal.

Pin5: **USB23 OC-**,“USB23_OC-“ Signal.

Pin7- Ground: **RESET Button**, They are used to connect reset button. The two pins are disconnected under normal condition. You may short them temporarily to realize system reset.

Pin6- Pin8: **POWER on/off Button**, They are used to connect power switch button. The two pins are disconnected under normal condition. You may short them temporarily to realize system startup & shutdown or awaken the system from sleep state.

Pin9- Pin10: **BUZZER**, They are used to connect an external buzzer.

Pin11~Pin18: **GPIO IN/GPIO OUT,** General-purpose input/output port, it provides a group of self-programming interfaces to customers for flexible use.

Pin19~Pin24: **PS2 KB/MS,** PS/2 keyboard and mouse port, the port can be connected

to
PS/2 keyboard and mouse via a dedicated cable for direct used.

Pin25~40: **USB0/USB1/USB2/USB3**, Front USB connector, it provides 4 USB ports via
a dedicated USB cable, speed up to 480Mb/s.

Note:

When connecting LEDs and buzzer and GPIO and USB, pay special attention to the signal polarity. Make sure that the connector pins have a one-to-one correspondence with chassis wiring, or it may cause boot up failure.

41. SATA_P1/SATA_P3:

(2.5mm Pitch 1x2 box Pin Header), Two onboard 5V output connectors are reserved to provide power for SATA devices.

Pin#	Signal Name
1	+DC5V
2	Ground

Note:

Output current of the connector must not be above 1A.

42. SATA_P2/SATA_P4:

(2.5mm Pitch 1x4 box Pin Header), Two onboard 5V and 12V output connectors are reserved to provide power for SATA devices.

SATA_P2 (2Pin or 4Pin)	
Pin#	Signal Name
1	+DC5V
2	Ground
3	Ground (NC)
4	+DC12V (NC)
SATA_P4 (option)	
Pin#	Signal Name

1	+DC5V （NC）
2	Ground （NC）
3	Ground （NC）
4	+DC12V （NC）

Note:

Output current of the connector must not be above 1A.

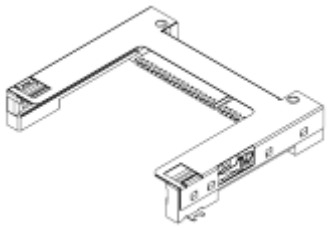
43. SATA1/SATA2/SATA3/SATA4:

(SATA 7P), SATA Connectors, Four SATA connectors are provided,SATA3 and SATA4 transfer speed up to 3.0Gb/s, SATA1 and SATA2 transfer speed up to 6.0Gb/s, RAID controller supporting RAID 0/1/5/10.

Position	Function	Color
SATA1	SATA3.0	white
SATA2	SATA3.0	white
SATA3	SATA2.0	black
SATA4	SATA2.0	Black （NC）

44. CFAST (option):

(CFAST Card socket), it is located at the bottom of the board and serves as an insert interface for CFAST card.



45. SIM (option):

(SIM Socket 7Pin), Support SIM Card devices.

46. M_SATA1(option):

(50.95mmx30mm Socket 52Pin), mSATA socket, it is located at the top, it supports mini PCI-e devices with LPC bus, **B2 mSATA bus** for flash disk signal.

47. H3/H4 (option):

M_SATA1 SCREW HOLES.

H3 and H4 for mini MSATA card (50.95mmx30mm Socket 52 Pin) assemble.

48. HS1/HS2/HS3/HS4(CPU SCREW HOLES):

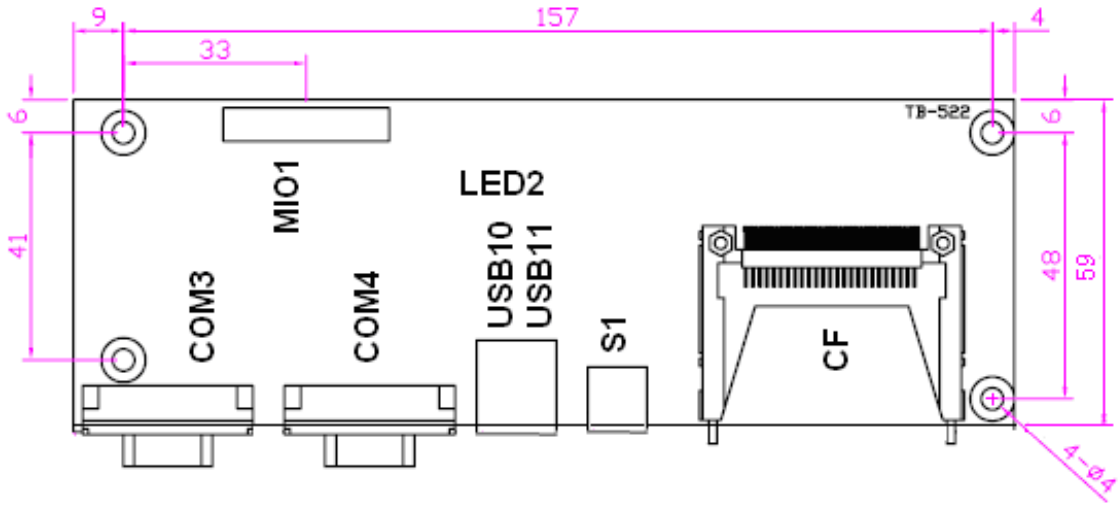
CPU FAN SCREW HOLES, Four screw holes for fixed CPU Cooler assemble.

49. H5/H6:

U4 SCREW HOLES.

50. TB-522:

ASB-M8671 I/O Card, via a dedicated cable connected to ASB-M8671 MIO1.



LED2:

CF Card LED status.

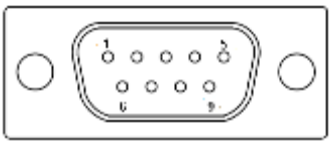
S1:

PWR BT: POWER on/off Button, They are used to connect power switch button. The two pins are disconnected under normal condition. You may short them temporarily to realize system startup & shutdown or awaken the system from sleep state.

PWR LED: POWER LED status.

COM3:

(Type DB9),I/O serial port, it provides selectable RS422/RS485 serial signal output.



RS422 Type (option)		RS485 Type (option)	
Signal Name	Pin#	Pin#	Signal Name
422_RX+	1	1	NC
422_RX-	2	2	NC
422_TX-	3	3	485-
422_TX+	4	4	485+
Ground	5	5	Ground
NC	6	6	NC
NC	7	7	NC
NC	8	8	NC
NC	9	9	NC

Note:

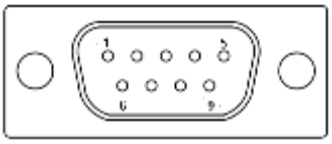
Use COM3 RS422 or RS485 Function, please enter BIOS CMOS Setup. Path: BIOS Setup Utility \ Advanced /Super IO Configuration \ Serial Port3 Type:

[RS-485]

[RS-422]

COM4:

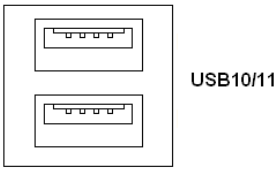
(Type DB9),Rear serial port, standard DB9 Male serial port is provided to make a direct connection to serial devices.



Pin#	Signal Name
1	DCD#　(Data Carrier Detect)
2	RXD (Received Data)
3	TXD (Transmit Data)
4	DTR (Data Terminal Ready)
5	Ground
6	DSR (Data Set Ready)
7	RTS (Request To Send)
8	CTS (Clear To Send)
9	RI **(**Ring Indicator**)**

USB10,USB11:

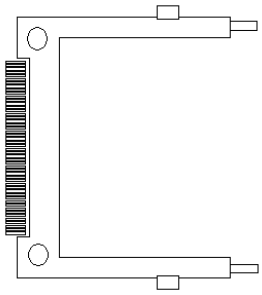
(Double stack USB type A), I/O USB connector, it provides up to 2 USB2.0 ports, speed up to 480Mb/s.



Each USB Type A Receptacle (2 Ports) Current limited value is 1.5A.
If the external USB device current exceeds 1.5A, please separate connectors into different Receptacle.

CF:

(CF Card socket), it is located at TB-522 and serves as an insert interface for Type I and Type II Compact Flash card. The operating voltage of CF card can be set as 3.3V or 5V. **The default setting of the product is 5V.**



MIO1:

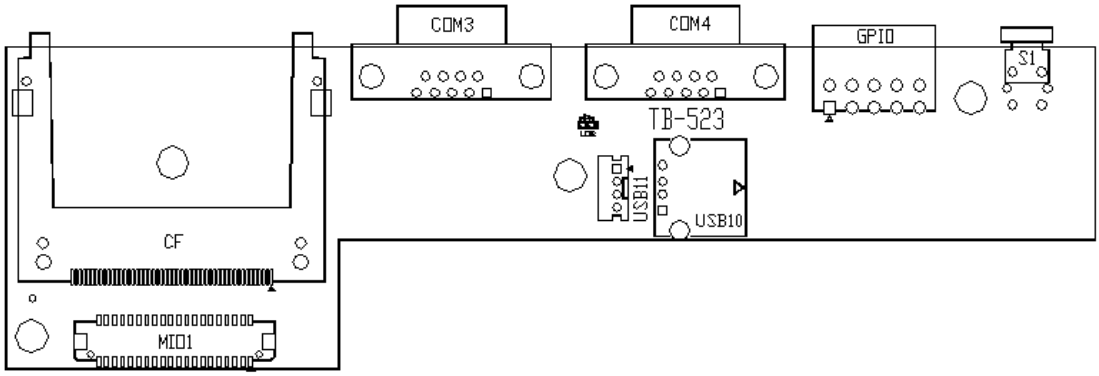
(DF13-40P) TB-522 MIO1 via a dedicated cable connected to ASB-M801 MIO1.

Signal Name	Pin#		Signal Name
422_RX+	1	2	485+_422TX+
422_RX-	3	4	485-_422TX-
Ground	5	6	NC
NC	7	8	NC
NC	9	10	5V_S5
DCD4-	11	12	RXD4
TXD4	13	14	DTR4-
Ground	15	16	DSR4-
RTS4-	17	18	CTS4-
RI4-	19	20	5V_S5
5V_USB9	21	22	5V_USB1011
USB9_N	23	24	USB10_N
USB9_P	25	26	USB10_P
Ground	27	28	Ground
Ground	29	30	Ground
5V_USB1011	31	32	PWR_LED+
USB11_N	33	34	PWR_LED-
USB11_P	35	36	PS_ON-
Ground	37	38	Ground
Ground	39	40	Ground

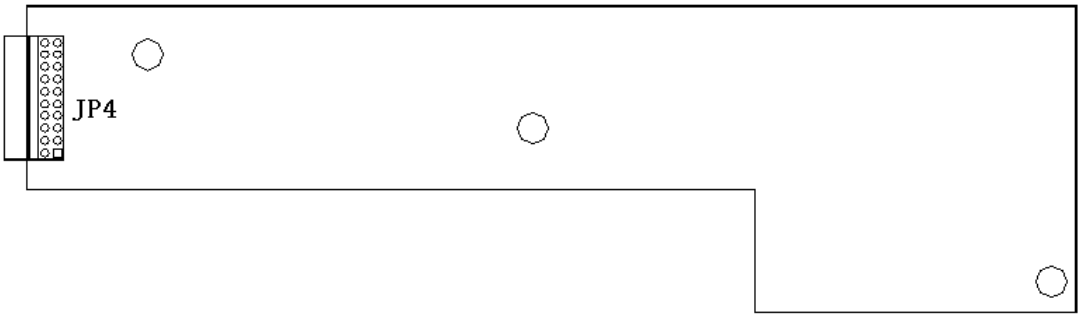
51. TB-523:

ASB-M8671 I/O Card, via a dedicated cable connected to ASB-M8671 MIO1 and MIO2.

TB-523 Top：



TB-523 Bottom：



LED2:

CF Card LED status.

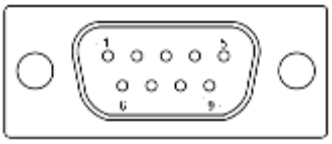
S1:

PWR BT: POWER on/off Button, They are used to connect power switch button. The two pins are disconnected under normal condition. You may short them temporarily to realize system startup & shutdown or awaken the system from sleep state.

PWR LED: POWER LED status.

COM3:

(Type DB9),I/O serial port, it provides selectable RS422/RS485 serial signal output.



RS422 Type (option)		RS485 Type (option)	
Signal Name	Pin#	Pin#	Signal Name
422_RX+	1	1	NC
422_RX-	2	2	NC
422_TX-	3	3	485-
422_TX+	4	4	485+
Ground	5	5	Ground
NC	6	6	NC
NC	7	7	NC
NC	8	8	NC
NC	9	9	NC

Note:

Use COM3 RS422 or RS485 Function, please enter BIOS CMOS Setup. Path: BIOS Setup Utility \ Advanced /Super IO Configuration \ Serial Port3 Type:

[RS-485]

[RS-422]

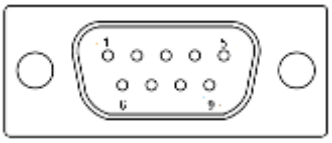
JP4:

(2.0mm Pitch 2x10 Pin Header) COM4 function setting jumper.

Function	JP4 Pin#
RS232	**Close: 3-5,4-6,10-12,11-13 (Default)**
RS422	Close: 1-3,2-4,5-7,8-10,9-11,12-14,18-20 (option)
RS485	Close: 5-7,8-10,9-11,12-14,16-18 (option)

COM4:

(Type DB9), I/O serial port, it provides selectable RS232/RS422/RS485 serial signal output.



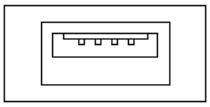
COM4 RS232 Type (Default)：	
Pin#	Signal Name
1	DCD# (Data Carrier Detect)
2	RXD (Received Data)
3	TXD (Transmit Data)
4	DTR (Data Terminal Ready)
5	Ground
6	DSR (Data Set Ready)
7	RTS (Request To Send)
8	CTS (Clear To Send)
9	RI (Ring Indicator)

COM4 RS422 Type (option)		**COM4 RS485 Type** (option)	
Signal Name	Pin#	Pin#	Signal Name

422_RX+	1	1	NC
422_RX-	2	2	NC
422_TX-	3	3	485-
422_TX+	4	4	485+
Ground	5	5	Ground
NC	6	6	NC
NC	7	7	NC
NC	8	8	NC
NC	9	9	NC

USB10:

(Single stack USB type A), I/O USB connector, it provides one USB2.0 port, speed up to 480Mb/s.



USB11:

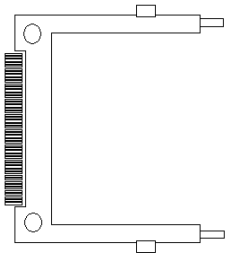
(2.0mm Pitch 1x4 box Pin Header), I/O USB connector, it provides one USB2.0 port, speed up to 480Mb/s.

Pin#	Signal Name
1	5V_USB1011
2	USB11_N
3	USB11_P
4	Ground

USB10 and USB11 current limited value is 1.5A.
If the external USB device current exceeds 1.5A, please separate connectors into different Receptacle.

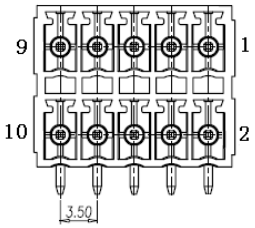
CF:

(CF Card socket), it is located at TB-523 and serves as an insert interface for Type I and Type II Compact Flash card. The operating voltage of CF card can be set as 3.3V or 5V. **The default setting of the product is 5V.**



GPIO:

(3.5mm Pitch 2x5 Pin Connector),General-purpose input/output port, it provides a group of self-programming interfaces to customers for flexible use.



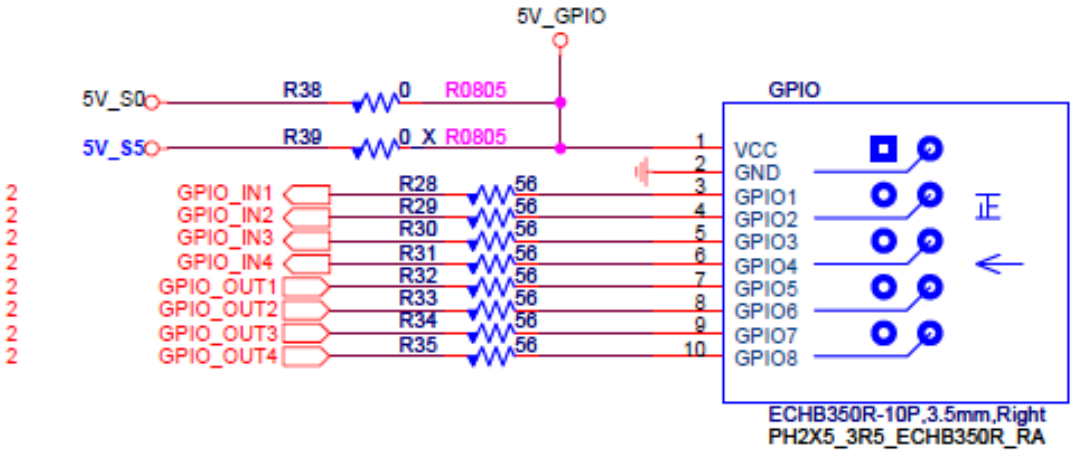
Function	Pin#		Function
+5V	1	2	Ground
GPIO_IN1	3	4	GPIO_IN2
GPIO_IN3	5	6	GPIO_IN4
GPIO_OUT1	7	8	GPIO_OUT2
GPIO_OUT3	9	10	GPIO_OUT4

MIO1:

(DF13-40P) TB-523 MIO1 via a dedicated Y cable connected to ASB-M801 MIO1 and MIO2.

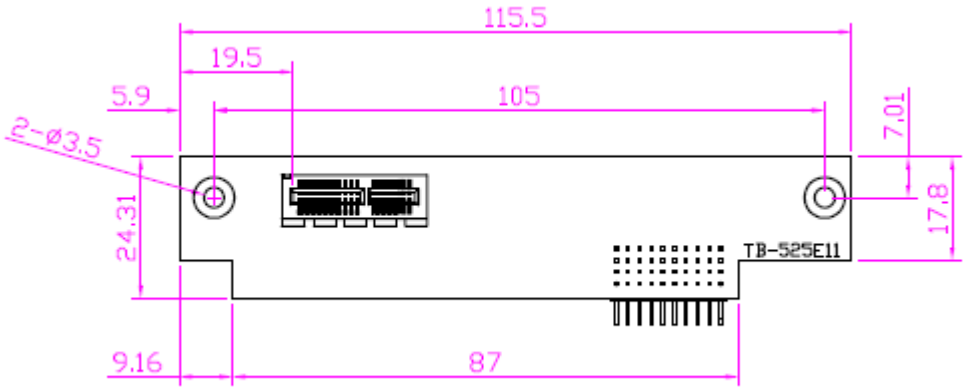
Signal Name	Pin#		Signal Name
422_RX+	1	2	485+_422TX+
422_RX-	3	4	485-_422TX-
Ground	5	6	GPIO_IN1
GPIO_IN2	7	8	GPIO_IN3
GPIO_IN4	9	10	5V_S5
DCD4-	11	12	RXD4
TXD4	13	14	DTR4-
Ground	15	16	DSR4-
RTS4-	17	18	CTS4-
RI4-	19	20	5V_S5
5V_USB9	21	22	5V_USB1011
USB9_N	23	24	USB11_N
USB9_P	25	26	USB11_P
Ground	27	28	Ground

GPIO_OUT1	29	30	GPIO_OUT2
5V_USB1011	31	32	SO_POWER_SENSE
USB10_N	33	34	PWR_LED-
USB10_P	35	36	PS_ON-
Ground	37	38	Ground
GPIO_OUT3	39	40	GPIO_OUT4



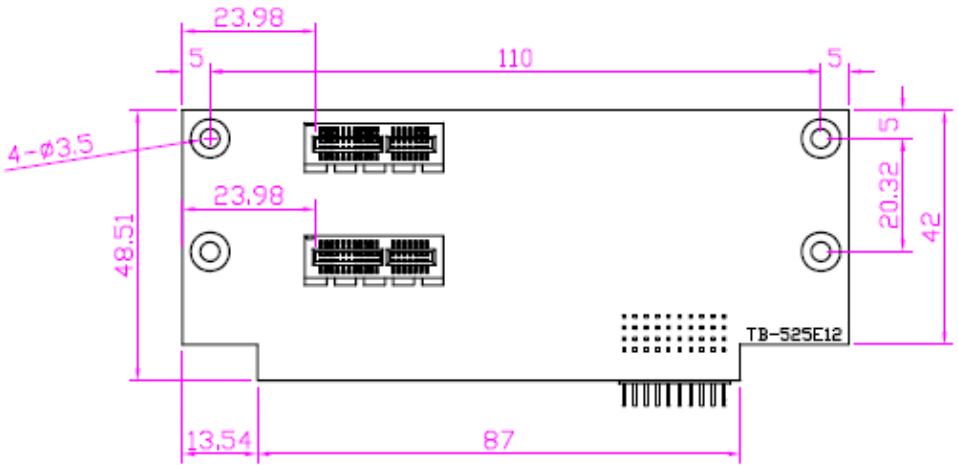
52. TB-525E11:

TB-525E11 connect to ASB-M8671T PCIE1X connector, PCIE1X is located at the top,It provides one PCIE X1 slot.



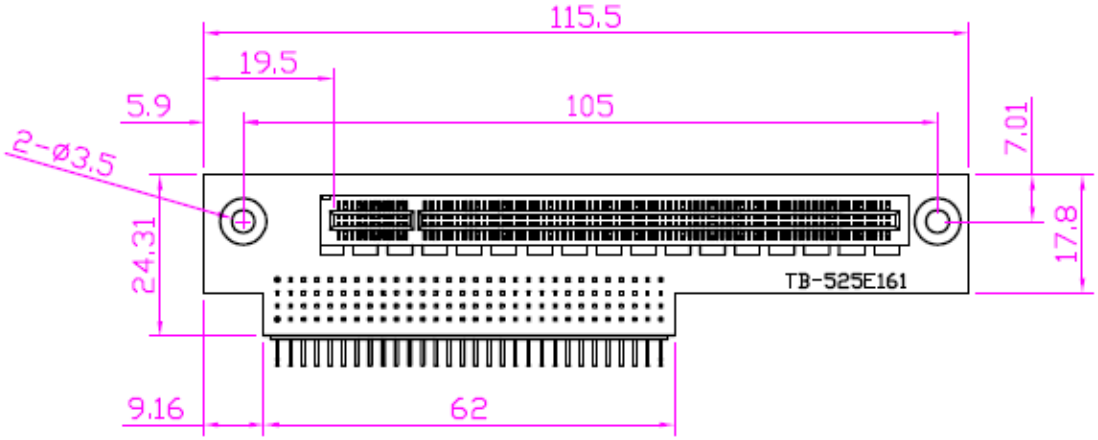
53. TB-525E12:

TB-525E12 connect to ASB-M8671T PCIE1X connector, PCIE1X is located at the top,It provides two PCIE X1 slot.



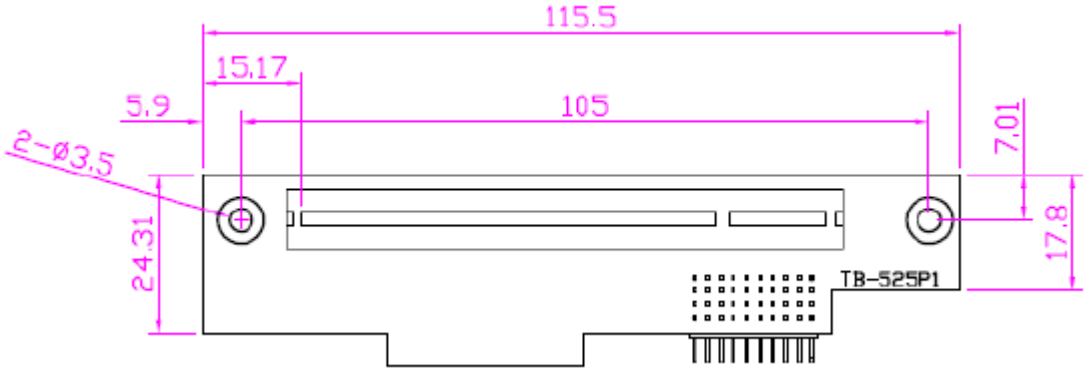
54. TB-525E161:

TB-525E161 connect to ASB-M8671T PCIE_16X connector, PCIE_16X is located at the top,It provides one PCIE X16 slot.



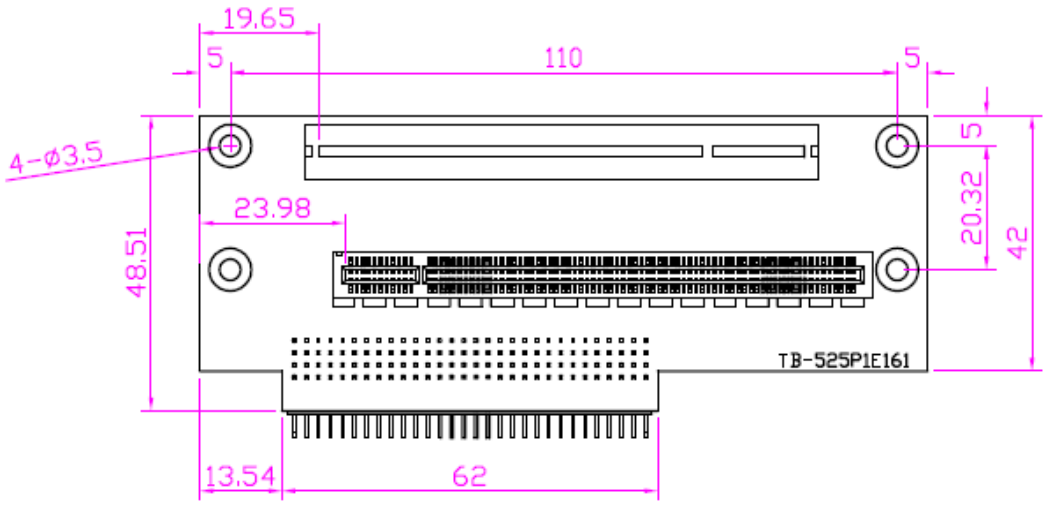
55. TB-525P1:

TB-525P1 connect to ASB-M8671T PCIE1X connector, PCIE1X is located at the top,It provides one PCI slot.



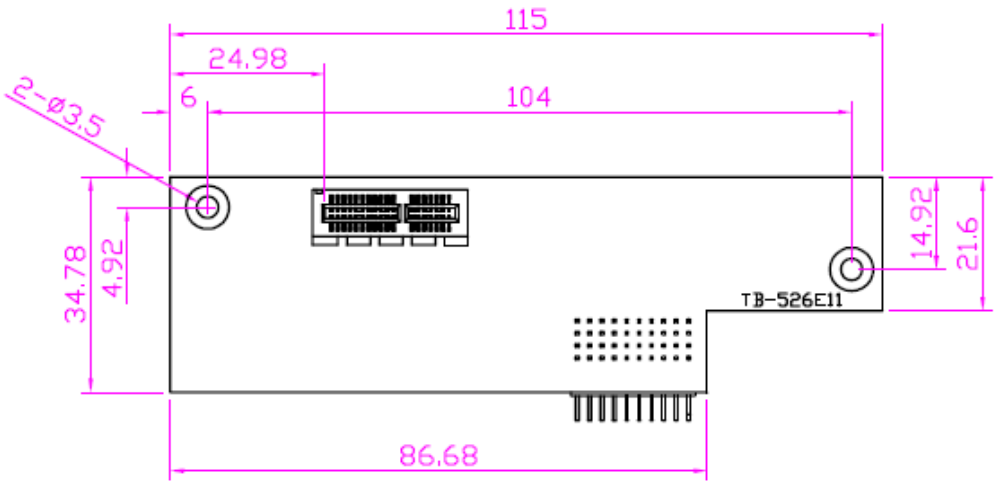
56. TB-525P1E161:

TB-525P1E161 connect to ASB-M8671T PCIE_16X and PCIE1X connector, PCIE_16X and PCIE1X is located at the top,It provides one PCIE X16 and one PCI slot.



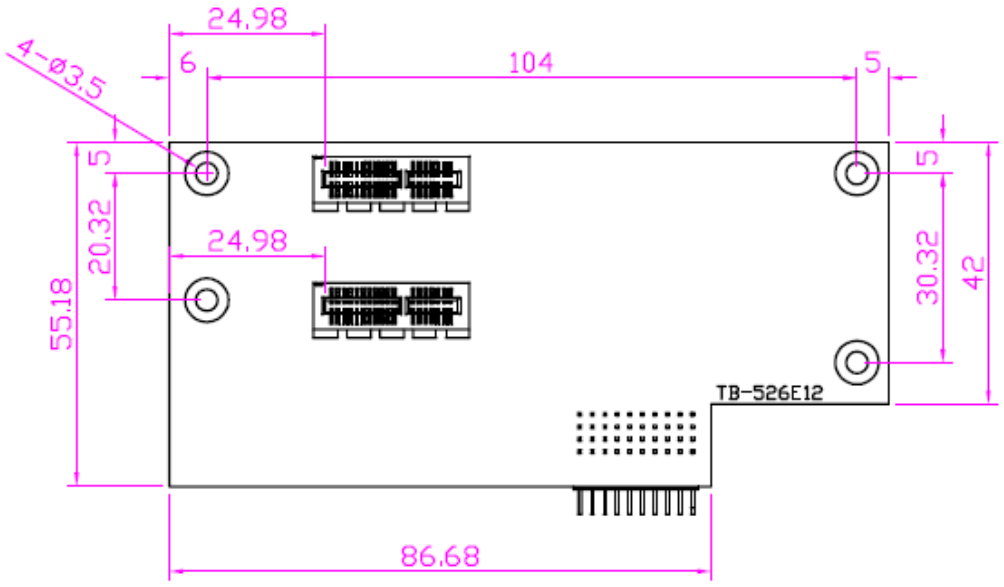
57. TB-526E11:

TB-526E11 connect to ASB-M8671B PCIE1X connector, PCIE1X is located at the Bottom, It provides one PCIE X1 slot.



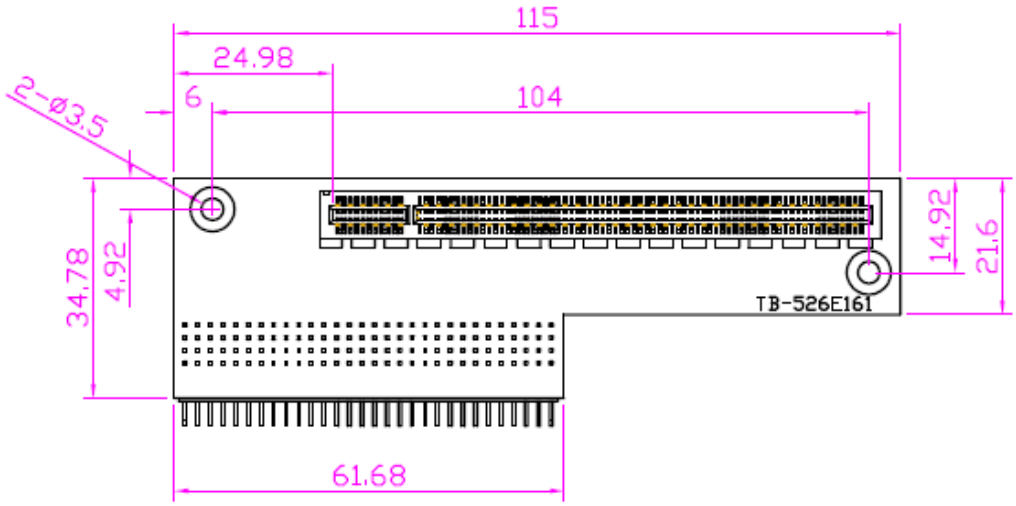
58. TB-526E12:

TB-526E12 connect to ASB-M8671B PCIE1X connector, PCIE1X is located at the Bottom, It provides two PCIE X1 slot.



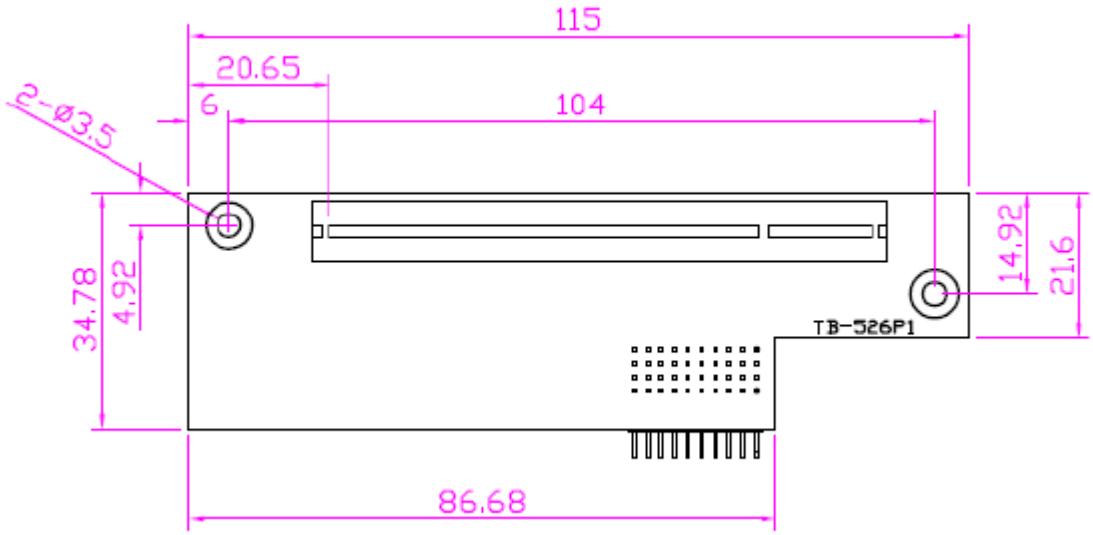
59. TB-526E161:

TB-526E161 connect to ASB-M8671B PCIE_16X connector**,** PCIE_16X is located at the Bottom,It provides one PCIE X16 slot.



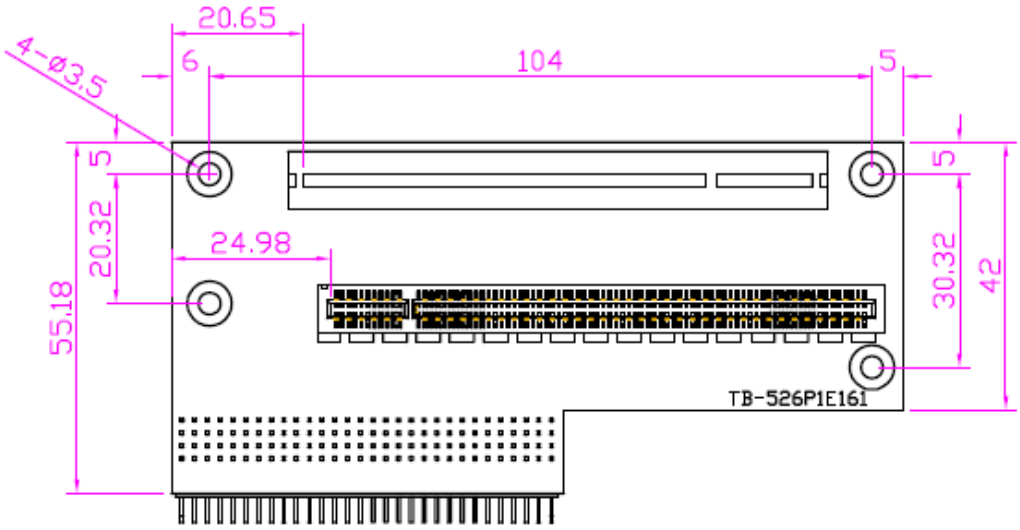
60. TB-526P1:

TB-526P1 connect to ASB-M8671B PCIE1X connector**,** PCIE1X is located at the Bottom, It provides one PCI slot.



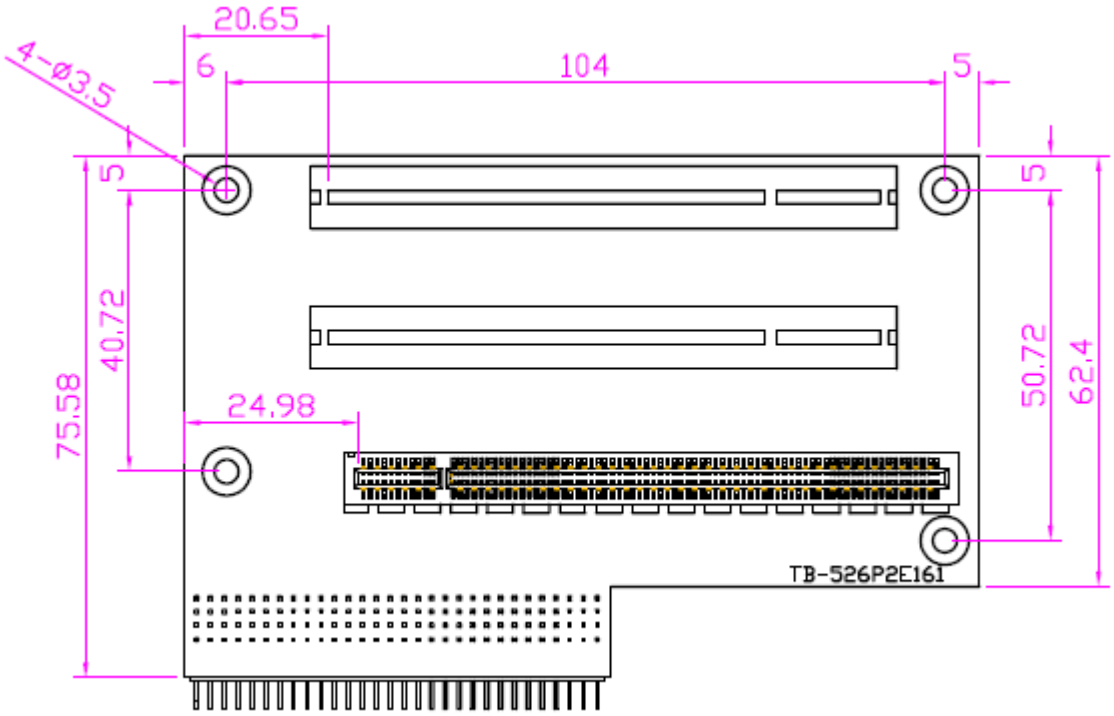
61. TB-526P1E161:

TB-526P1E161 connect to ASB-M8671B PCIE_16X and PCIE1X connector, PCIE_16X and PCIE1X is located at the bottom,It provides one PCIE X16 and one PCI slot.



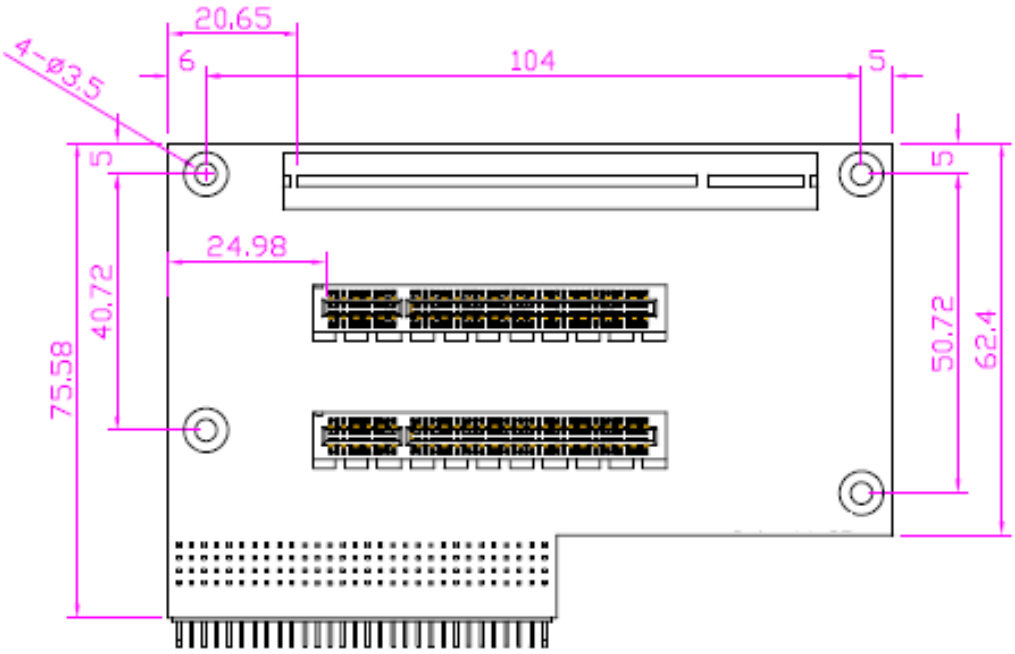
62. TB-526P2E161:

TB-526P2E161 connect to ASB-M8671B PCIE_16X and PCIE1X connector, PCIE_16X and PCIE1X is located at the bottom,It provides one PCIE X16 and two PCI slot.



63. TB-526P1E82:

TB-526P1E82 connect to ASB-M8671B PCIE_16X and PCIE1X connector**,** PCIE_16X and PCIE1X is located at the bottom,It provides two PCIE X8 and one PCI slot.



BIOS Setup Description

3.1 Operations after POST Screen

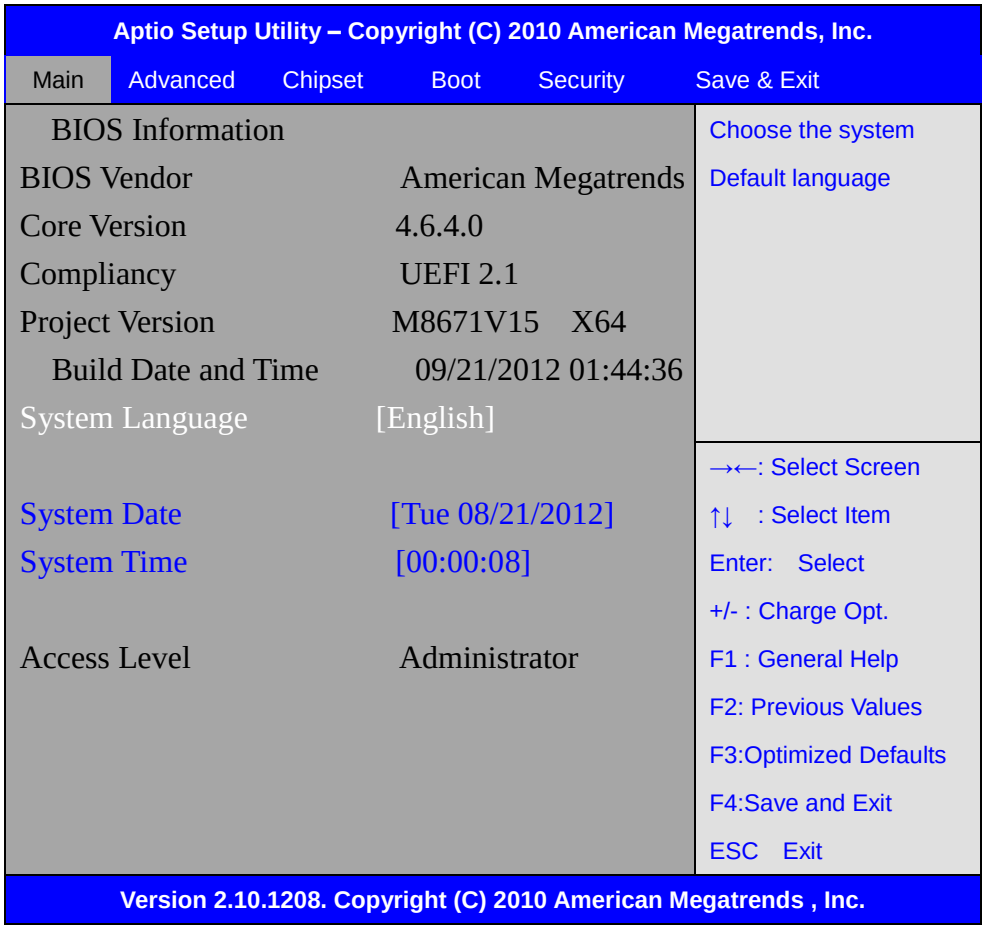
After CMOS discharge or BIOS flashing operation,.Press [Delete] key to enter CMOS Setup.

American Megatrends
Version 2.10.1208. Copyright (C) 2010 American Megatrends, Inc.
(M8671V15)
Press 〈DEL〉or〈F2〉to enter setup
CMOS Checksum fail。Press ＜DEL＞ to enter setup。
A3

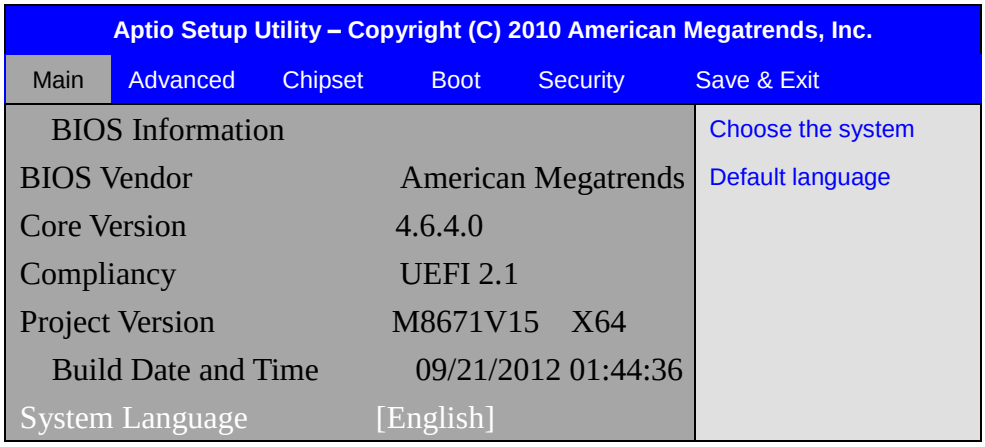
After optimizing and exiting CMOS Setup, the POST screen displayed for the first time is as follows and includes basic information on BIOS, CPU, memory, and storage devices.

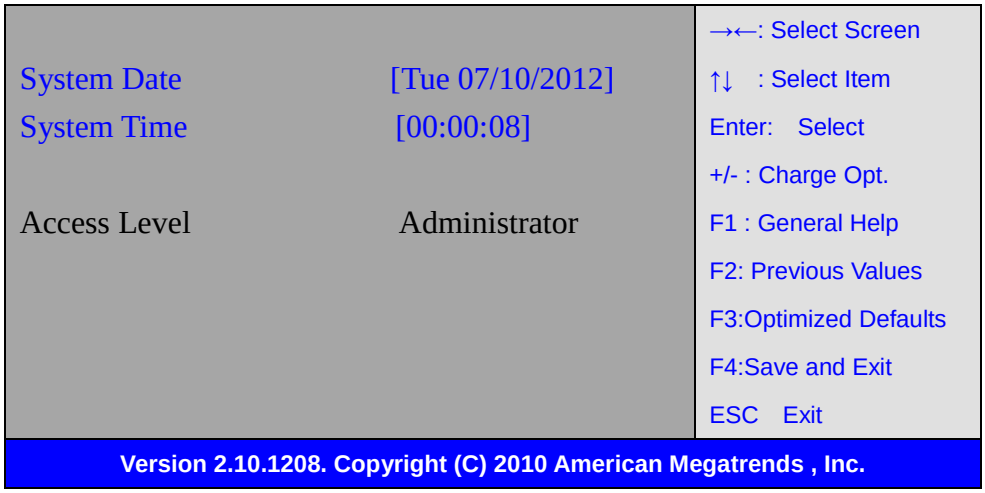
3.2 BIOS SETUP UTILITY

Press [Delete] key to enter BIOS Setup utility during POST, and then a main menu containing system summary information will appear.



3.3 Main Settings





System Time:

Set the system time, the time format is:

Hour : 0 to 23

Minute : 0 to 59

Second : 0 to 59

System Date:

Set the system date, the date format is:

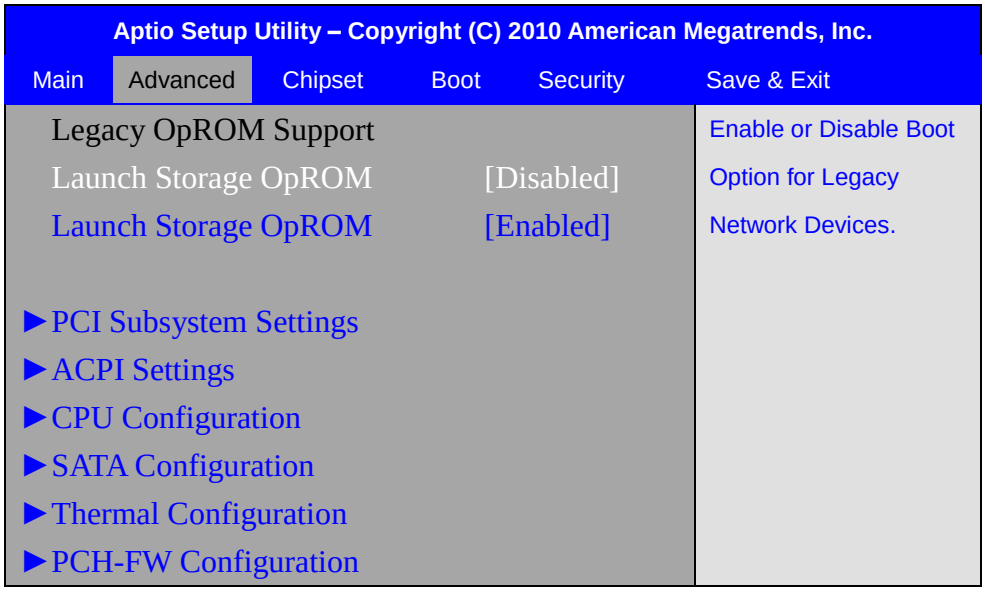
Day: Note that the 'Day' automatically changes when you set the date.

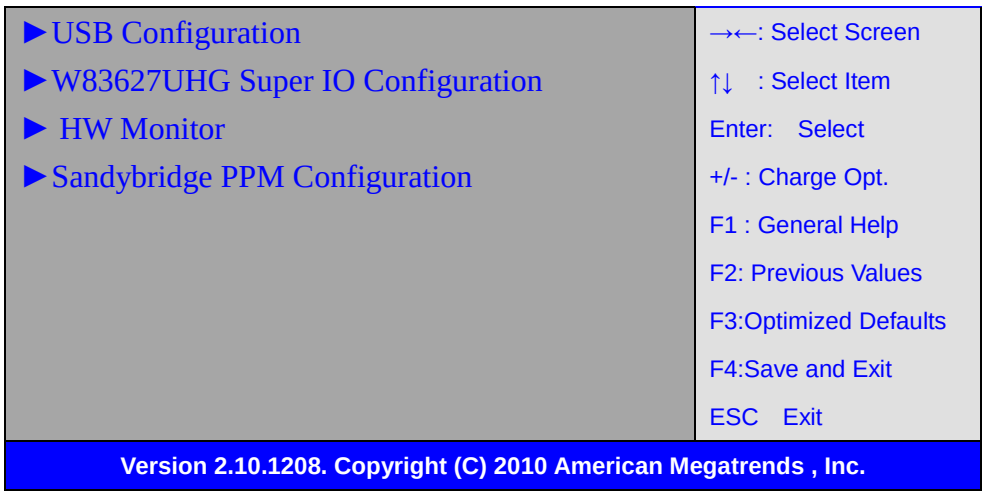
Month: 01 to 12

Date: 01 to 31

Year: 1998 to 2099

3.4 Advanced Settings





3.4.1 PCI Subsystem Settings

PCI Bus Driver Versio V2.03.00

PCI ROM Priority:

[EFI Compatible ROM]

[Legacy ROM]

PCI Common Settings:

PCI Latency Timer:

[32 PCI Bus Clocks]

[64 PCI Bus Clocks]

[96 PCI Bus Clocks]

[128 PCI Bus Clocks]

[160 PCI Bus Clocks]

[192 PCI Bus Clocks]

[224 PCI Bus Clocks]

[248 PCI Bus Clocks]

PCI Express Device Settings:

Relaxed Ordering:

[Disabled]

[Enabled]

Extended Tag:

[Disabled]

[Enabled]

No Snoop:

[Enabled]

[Disabled]

Maximum Payload:

[Auto]

[128 Bytes]

[256 Bytes]
[512 Bytes]
[1024 Bytes]
[2048 Bytes]
[4096 Bytes]

Maximum Read Request:

[Auto]
[128 Bytes]
[256 Bytes]
[512 Bytes]
[1024 Bytes]
[2048 Bytes]
[4096 Bytes]

PCI Express Link Settings:

ASPM Support:

[Disabled]
[Enabled]

WARNING:Ebabling ASPM may cause some PCI-E devices to fail

Extended Synch:

[Disabled]
[Enabled]

3.4.2 ACPI Settings

Enable ACPI Auto Configuration:

[Disabled]
[Enabled]

Enable Hibernation:

[Enabled]
[Disabled]

ACPI Sleep State:

[S3 (Suspend to RAM)]
[Suspend Disabled]
[S3 (Suspend to RAM)]

Lock Legacy Resources:

[Disabled]
[Enabled]

3.4.3 CPU Configuration

Socket 0 CPU Information:

Intel(R) Core(TM) i5-2430M CPU @2.40GHz

CPU Signature	206a7
Microcode Patch	25
Max CPU Speed	2400 MHz
Min CPU Speed	800 Mhz
Processor Cores	2
Intel HT Technology	Supported
Intel VT-x Technology	Supported
L1 Data Cache	32 KB x 2
L1 Code Cache	32 KB x 2
L2 Cache	256 KB x 2
L3 Cache	3072 KB

CPU Speed 2400 MHz

64-bit Supported

Hyper-Threading:

[Enabled]

[Disabled]

Active Processor Cores

[All]

[1]

Limit CPUID Maximum:

[Enabled]

[Disabled]

Execute Disable Bit:

[Enabled]

[Disabled]

Hardware Prefetcher

[Enabled]

[Disabled]

Adjacent Cache Line Prefetch

[Enabled]

[Disabled]

Intel Virtualization Technology

[Enabled]

[Disabled]

3.4.4 SATA Configuration

SATA Controller(S):

[Enabled]

[Disabled]

SATA Mode Selection:

[IDE]

[AHCI]

[RAID]

SATA Test Mode:

[Disabled]

[Enabled]

ISRT Support

[Enabled]

[Disabled]

Delay of the OROM UI Splash Screen

[2 SEC]

[4 SEC]

[6 SEC]

[8 SEC]

Serial ATA Port 0 Empty

Software Preserve Unknown

Serial ATA Port 1 Empty

Software Preserve Unknown

Serial ATA Port 2 Empty

Software Preserve Unknown

Serial ATA Port 3 Empty

Software Preserve Unknown

Serial ATA Port 4 Empty

Software Preserve Unknown

Serial ATA Port 5 Empty

Software Preserve Unknown

3.4.5 Thermal Configuration

Platform Thermal Configuration

Critical Trip Point **[POR]**
[15 C]
[23 C]
[31 C]
[39 C]
[47 C]
[55 C]
[63 C]
[71 C]
[79 C]
[87 C]
[95 C]
[103 C]
[111 C]
[119 C]

Active Trip Point Hi Fan Speed **[71 C]**
[15 C]
[23 C]
[31 C]
[39 C]
[47 C]
[55 C]
[63 C]
[79 C]
[87 C]
[95 C]
[103 C]
[111 C]
[119 C]

Active Trip Point 0 Fan Speed **100**

Active Trip Point Lo Fan Speed **[55 C]**
[15 C]
[23 C]
[31 C]
[39 C]

[47 C]
[63 C]
[71 C]
[79 C]
[87 C]
[95 C]
[103 C]
[111 C]
[119 C]

Active Trip Point 1 Fan Speed 75

Passive Trip Point [95 C]
[15 C]
[23 C]
[31 C]
[39 C]
[47 C]
[55 C]
[63 C]
[71 C]
[79 C]
[87 C]
[95 C]
[103 C]
[111 C]
[119 C]

Passive TC1 Value 1

Passive TC2 Value 5

Passive TSP Value 10

ME SEBus Thermal Reporting **[Disabled]**
[Enabled]

PCH Thermal Device **[Disabled]**
[Enabled]

MCH Temp Read **[Disabled]**
[Enabled]

PCH Temp Read **[Disabled]**
[Enabled]

CPU Energy Read **[Disabled]**
[Enabled]

CPU Temp Read **[Disabled]**
[Enabled]

Alert Enable Lock **[Disabled]**

[Enabled]

3.4.6 PCH-FW Configuration

ME FW Version 7.1.52.1176
ME Firmware Mode Normal Mode
ME Firmware Type Full Sku Firmware
ME Firmware SKU Unidentified
Firmware Update Configuration
ME FW Image Re-Flash
[Disabled]
[Enabled]

3.4.7 USB Configuration

USB Configuration
USB Devices:
1 keyboard, 2 Hubs

Legacy USB Support:
[Enabled]
[Disabled]
EHCI Hand-off:
[Disabled]
[Enabled]
Port 60/64 Emulation
[Enabled]
[Disabled]
USB hardware delays and time-outs:
USB transfer time-out:
[20 sec]
[10 sec]
[5 sec]
[1 sec]
Device reset time-out:
[20 sec]
[10 sec]
[30 sec]
[40 sec]
Device power-up delay
[Auto]
[Manual]

3.4.8 W83627UHG Super IO Configuration

W83627UHG Super IO Configuration

Super IO Chip Winbond W83627UHG

COM1 Configuration

COM2 Configuration

COM3 Configuration

COM4 Configuration

COM5 Configuration

COM6 Configuration

3.4.9 HW Monitor

PC Health Status

System temperature : +42 C

CPU temperature : +56

CPU Fan Speed : 7000 RPM

VCORE : +1.145V

+12V : +11.556 V

+3.3V : +3.280 V

+1.5V : +1.520 V

5VSB : +5.125 V

VBAT : +3.136 V

3.4.10 Sandybridge PPM Configuration

Sandybridge PPM Configuration

EIST

[Enabled]

[Disabled]

Turbo Mode

[Enabled]

[Disabled]

CPU C3 Report

[Enabled]

[Disabled]

CPU C6 report

[Enabled]

[Disabled]

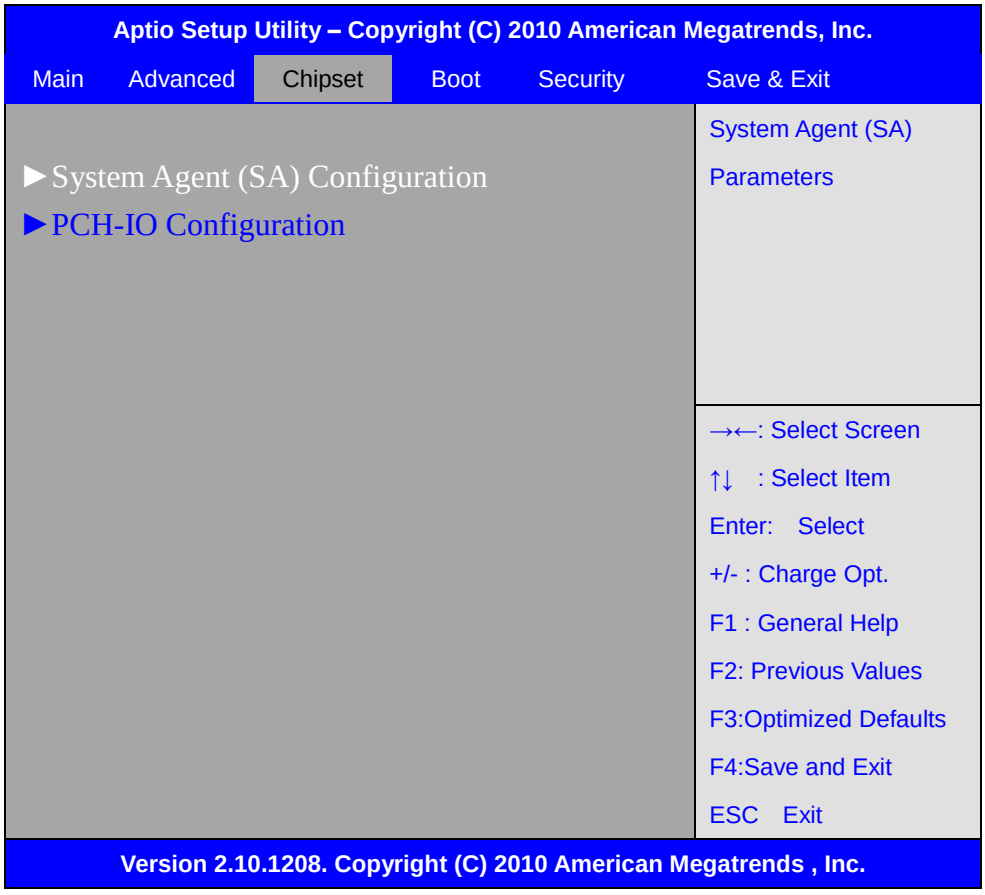
CPU C7 report

[Enabled]

[Disabled]

Long duration power limit	0
Long duration maintained	28
Short duration power limit	0
TCC active offset	0

3.5 Chipset Settings



3.5.1 ► System Agent (SA) Configuration
►PCH-IO Configuration

System Agent (SA) Configuration

System Agent RC Version	2.7.0.0
VT-d Capability	Unsupported

►Graphics Configuration

IGFX VBIOS Version	2120

IGFX Frequency 650 MHz

Graphics Turbo IMON Current 31

Primary Display

[Auto]
[IGFX]
[PEG]
[PCI]

Internal Graphics

[Auto]
[Disabled]
[Enabled]

GTT Size

[2MB]
[1MB]

Aperture Size

[256MB]
[128MB]
[512MB]

DVMT Pre-allocated

[64MB]
[0MB]
[32MB]
[96MB]
[128MB]
[160MB]
[192MB]
[224MB]
[256MB]
[288MB]
[320MB]
[352MB]
[384MB]
[416MB]
[448MB]
[480MB]
[512MB]

Dvmt Total Gfx Mem

[256MB]
[128MB]
[MAX]

GFX Low Power Mode

[Enabled]
[Disabled]

LCD Control:

Primary IGFX Boot Display

[VBIOS Default]
[CRT]
[DVI]
[LVDS]

LCD Panel Type

[1280 X 1024 24bit 2ch]
[640 X 480 18bit 1ch]
[800 X 480 18bit 1ch]
[800 X 600 18bit 1ch]
[800 X 600 24bit 1ch]
[1024 X 768 18bit 1ch]
[1024 X 768 24bit 1ch]
[1280 X 800 18bit 1ch]
[1366 X 768 18bit 1ch]
[1440 X 900 24bit 2ch]
[1600 X 900 24bit 2ch]
[1600 X 1200 24bit 2ch]
[1680 X 1050 24bit 2ch]
[16800 X 1050 24bit 2ch]
[1920 X 1080 24bit 2ch]
[2048 X 1536 24bit 2ch]

Panel Scaling

[Auto]
[Off]
[Force Scaling]

Backlight Control

[DC]
[PWM]

Backlight Logic

[Positive]
[Negaive]

Backlight Control Control Level

[Level 8]
[Level 0]

[Level 1]
[Level 2]
[Level 3]
[Level 4]
[Level 5]
[Level 6]
[Level 7]
[Level 9]
[Level 10]
[Level 11]
[Level 12]
[Level 13]
[Level 14]
[Level 15]
[Level 16]

BIA

[Auto]
[Disabled]
[Level 1]
[Level 2]
[Level 3]
[Level 4]
[Level 5]

Spread Spectrum clock chip

[Off]
[Hardware]
[Software]

ALS Support

[Disabled]
[Enabled]

Panel Color Depth

[18 Bit]
[24 Bit]

►DMI Configuration

►NB PCIe Configuration

PEG0 [Not Present]

PEG0 – Gen X [Auto]

[Gen1]
[Gen2]

PEG1 [Not Present]
PEG1 – Gen X [Auto]
[Gen1]
[Gen2]

PEG2 [Not Present]
PEG2 – Gen X [Auto]
[Gen1]
[Gen2]

PEG3 [Not Present]
PEG3 – Gen X [Auto]
[Gen1]
[Gen2]

Always Enable PEG
[Enabled]
[Disabled]

PEG ASPM
[Disabled]
[Auto]
[ASPM LOs]
[ASPM L1]
[ASPM LOsL1]

ASPM LOs
[Root Port Only]
[Endpoint Port Only]
[Both Root and Endpoint Ports]

De-emphasis Control
[-3.5 dB]
[-6 dB]

►Memory Configuration
Memory RC Version 1.2.2.0
Memory Frequency 1333 Mhz

Total Memory	2048 MB (DDR3)
DIMM#0	2048 MB (DDR3)
DIMM#1	Not Present
DIMM#2	Not Present
DIMM#3	Not Present
CAS Latency (tCL)	7
Minimum delay time	
CAS to RAS (tRPmin)	7
Row Precharge (tRPmin)	7
Active to Precharge (tRPmin)	20
DIMM profile	
	[Default DIMM profile]
	[XMP profile 1]
	[XMP profile 2]
Memory Frofile	
	[Auto]
	[1067]
	[1333]
	[1600]
	[1867]
	[2133]
Max TOLUD	
	[Dynamic]
	[1GB]
	[1.25GB]
	[1.5GB]
	[1.75GB]
	[2GB]
	[2.25GB]
	[2.5GB]
	[2.75GB]
	[3GB]
	[3.25GB]
NMode Support	
	[Auto]
	[1N Mode]
	[2N Mode]
Memory Scrambler	
	[Enabled]
	[Disabled]

RMT Crosser Support

Memory Scrambler

[Disabled]

[Enabled]

MRC Fast Boot

[Enabled]

[Disabled]

Force Cold Reset

[Enabled]

[Disabled]

Scrambler Seed Generation off

[Disabled]

[Enabled]

Memory Remap

[Disabled]

[Enabled]

Channel A DIMM Control

[Enabled Both DIMMS]

[Disabled DIMM0]

[Disabled DIMM1]

[Disabled Both DIMMS]

►GT-Power Management Control

GT Info GT2 (0X116)

RC6 (Render Standby)

[Enabled]

[Disabled]

GT overClocking Support

[Disabled]

[Enabled]

►**PCH-IO Configuration**

Intel PCH RC Version 1.2.1.0

Intel PCH SKU Name QM67

Intel PCH Rev ID 05/B3

PCH LAN Controller

[Disabled]

[Enabled]

Board Capability

[SUS_PWR_DN_ACK]

[Deepsx]

EC Turbo Control Mode

[Disabled]
[Enabled]

Azalia

[Auto]
[Disabled]
[Enabled]

Azalia Internal Codec

[Enabled]
[Disabled]

BIOS Security Configuration

High Precision Event Timer Configuration
High Precision Timer

[Enabled]
[Disabled]

SLP_S4 Assertion Width

[4-5 Seconds]
[1-2 Seconds]
[2-3 Seconds]
[3-4 Seconds]

Restore AC Power Loss

[Last State]
[Power off]
[Power on]

Set NAND Management Override

[Enabled]
[Disabled]

►**USB Configuration**

EHCI1

[Enabled]
[Disabled]

EHCI2

[Enabled]
[Disabled]

USB Ports Per-Port Disable Control

[Disabled]
[Enabled]

►**PCI Express Configuration**

PCI Express Clock Gating

[Enabled]
[Disabled]

DMI Link ASPM Control

[LOSL1]
[LOS]
[Disabled]

DMI Link Extended Synch Control

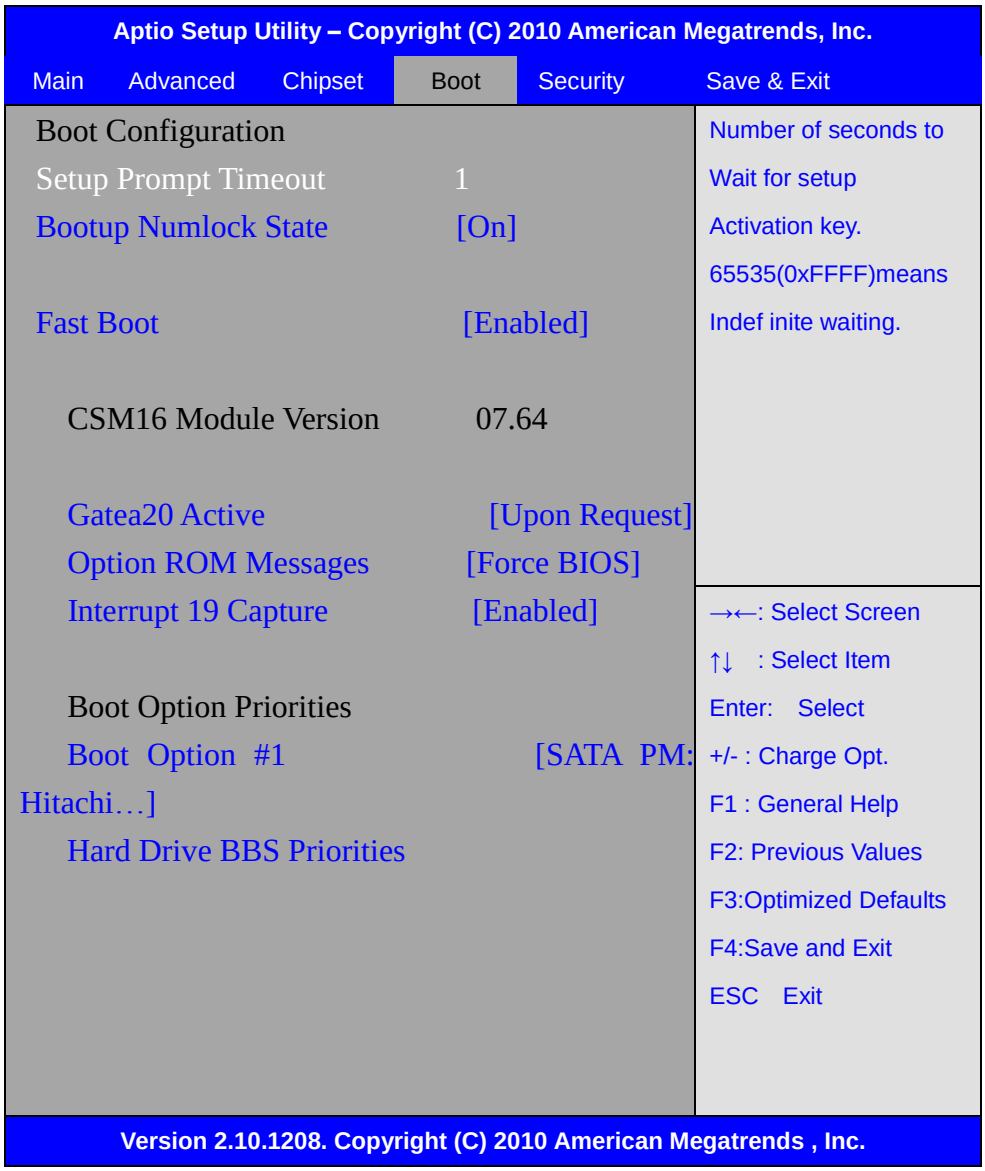
[Disabled]
[Enabled]

Subtractive Decode

[Disabled]
[Enabled]

►PCI Express Root Port 1
►PCI Express Root Port 2
►PCI Express Root Port 3
►PCI Express Root Port 4
►PCI Express Root Port 5
►PCI Express Root Port 6
►PCI Express Root Port 7
►PCI Express Root Port 8

3.6 Boot Settings



Setup Prompt Timeout [1]

Bootup Numlock State

[On]

[off]

Quiet Boot

[Disabled]

[Enabled]

CSM16 Module Verison 07.64

Gatea20 Active

[Upon Request]

[Always]

Option ROM Messages

[Force BIOS]

[Keep Current]

Interrupt 19 Capture

[Disabled]

[Enabled]

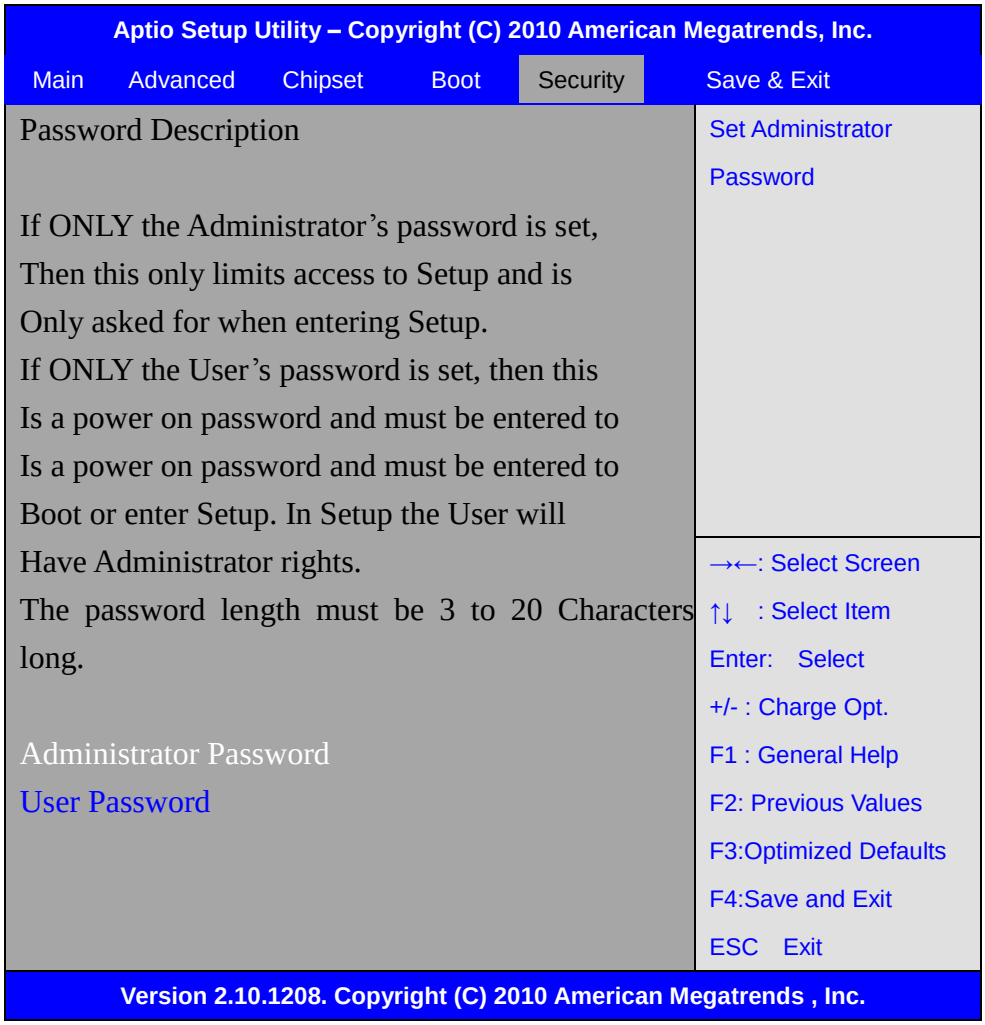
Boot Override

SATA PM: ST9320423AS

……

Launch EFI Shell from filesystem device

3.7 Security Settings


Aptio Setup Utility – Copyright (C) 2010 American Megatrends, Inc.
Main
Advanced
Chipset
Boot
Security
Save & Exit
Password Description
If ONLY the Administrator's password is set,
Then this only limits access to Setup and is
Only asked for when entering Setup.
If ONLY the User's password is set, then this
Is a power on password and must be entered to
Is a power on password and must be entered to
Boot or enter Setup. In Setup the User will
Have Administrator rights.
The password length must be 3 to 20 Characters long.
Administrator Password
User Password
Set Administrator Password
→←: Select Screen
↑↓ : Select Item
Enter: Select
+/- : Charge Opt.
F1 : General Help
F2: Previous Values
F3:Optimized Defaults
F4:Save and Exit
ESC Exit
Version 2.10.1208. Copyright (C) 2010 American Megatrends , Inc.

3.7.1 Administrator Password

3.7.2 User Password

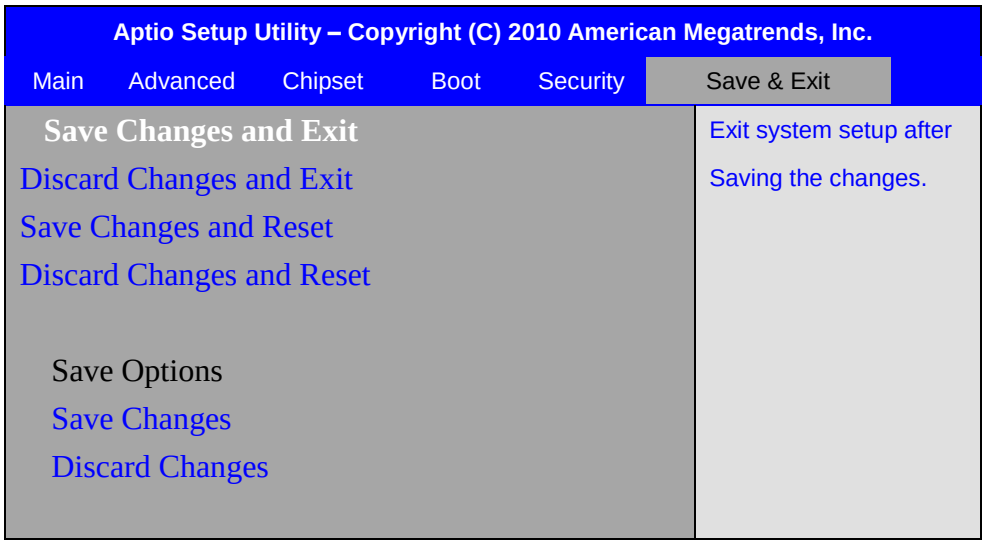
Type the password with up to 20 characters and then press ⋖Enter⋗ key. This will clear all previously typed CMOS passwords. You will be requested to confirm the password. Type the password again and press ⋖Enter⋗ key. You may press ⋖Esc⋗ key to abandon password entry operation.

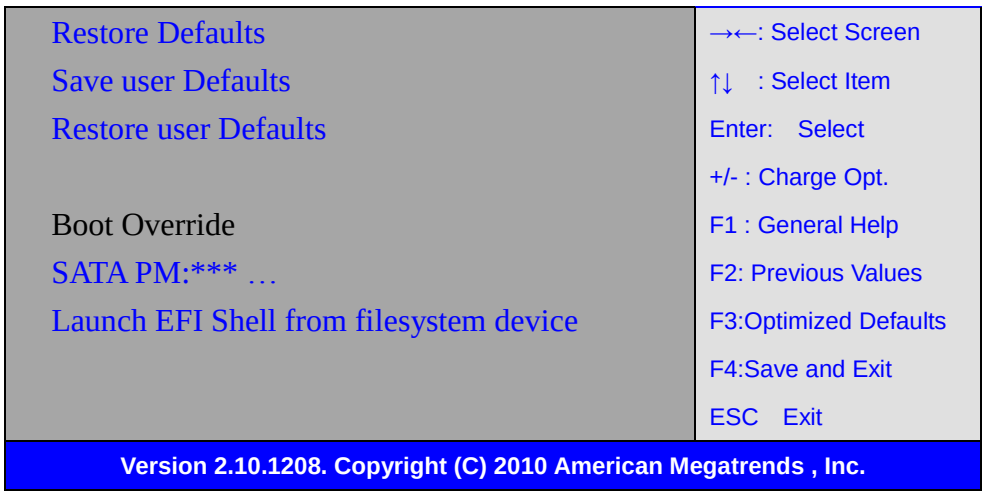
To clear the password, just press ⋖Enter⋗ key when password input window pops up. A confirmation message will be shown on the screen as to whether the password will be disabled. You will have direct access to BIOS setup without typing any password after system reboot once the password is disabled.

Once the password feature is used, you will be requested to type the password each time you enter BIOS setup. This will prevent unauthorized persons from changing your system configurations.

Also, the feature is capable of requesting users to enter the password prior to system boot to control unauthorized access to your computer. Users may enable the feature in Security Option of Advanced BIOS Features. If Security Option is set to System, you will be requested to enter the password before system boot and when entering BIOS setup; if Security Option is set to Setup, you will be requested for password for entering BIOS setup.

3.8 Save & Exit Settings





Save Changes and Exit

Save & Exit Setup save Configuration and exit ?

[Yes]

[No]

Discard Changes and Ext

Exit Without Saving Quit without saving?

[Yes]

[No]

Save Changes and Reset

Save & reset Save Configuration and reset?

[Yes]

[No]

Discard Changes and Reset

Reset Without Saving Reset without saving?

[Yes]

[No]

Save Changes

Save Setup Values Save configuration?

[Yes]

[No]

Discard Changes

Load Previous Values Load Previous Values?

[Yes]

[No]

Restore Defaults

Load Optimized Defaults Load optimized Defaults?

[Yes]

[No]

Save user Defaults

Save Values as User Defaults Save configuration?

[Yes]

[No]

Restore user Defaults

Restore User Defaults Restore User Defaults?

[Yes]

[No]

Launch EFI Shell from filesystem device

WARNING Not Found

[ok]

Chapter 4 Installation of Drivers

This chapter describes the installation procedures for software and drivers under the windows XP. The software and drivers are included with the motherboard. The contents include Intel **chipset driver, VGA driver, LAN driver, Audio driver, .NET framework 3.5 driver**
Installation instructions are given below.

Important Note:
After installing your Windows operating system (Windows XP), you must install first the Intel Chipset Software Installation Utility before proceeding with the installation of drivers.

4.1 Intel Chipset Driver

To install the Intel chipset driver, please follow the steps below.

Step 1: Select Chipset from the list

Follow the step-by-step installation process to install the driver.

Intel® Chipset Device Software
Intel® Chipset Device Software
intel
Welcome to the Setup Program
This setup program will install the Intel® Chipset Device Software onto this computer. It is strongly recommended that you exit all programs before continuing.
< Back
Next >
Cancel
Intel® Installation Framework

Intel® Chipset Device Software
Intel® Chipset Device Software
License Agreement
intel
You must accept all of the terms of the license agreement in order to continue the setup program. Do you accept the terms?
INTEL SOFTWARE LICENSE AGREEMENT (OEM / IHV / ISV Distribution & Single User)
IMPORTANT - READ BEFORE COPYING, INSTALLING OR USING.
Do not use or load this software and any associated materials (collectively, the "Software") until you have carefully read the following terms and conditions. By loading or using the Software, you agree to the terms of this Agreement. If you do not wish to so agree, do not install or use the Software.
Please Also Note:
* If you are an Original Equipment Manufacturer (OEM), Independent Hardware Vendor (IHV), or Independent Software Vendor (ISV), this complete LICENSE AGREEMENT applies;
< Back
Yes
No
Intel® Installation Framework

Intel® Chipset Device Software
Intel® Chipset Device Software
Readme File Information
intel
Refer to the Readme file below to view the system requirements and installation information.
Press the Page Down key to view the rest of the file.
****
* Product: Intel(R) Chipset Device Software
* Release: Production Version
* Version: 9.2.0.1030
* Target Products: Intel(R) 6 Series/C200 Series Chipse
* 2nd generation Intel(R) Core(TM) pro
* Date: April 15 2011
****
< Back
Next >
Cancel
Intel® Installation Framework

Intel® Chipset Device Software
Intel® Chipset Device Software
Setup Progress
Please wait while the following setup operations are performed:
Copying File: CSVer.dll
Creating Key: HKLM\SOFTWARE\Intel\Infinst\Language=ENU,sz
Installing Driver: Xeon E3-1200/2nd Generation Intel(R) Core(TM) Processor Family PCI Express R
Version: 9.2.0.1026
Installing Driver: 2nd Generation Intel(R) Core(TM) Processor Family DRAM Controller - 0104
Version: 9.2.0.1026
Installing Driver: Xeon E3-1200/2nd Generation Intel(R) Core(TM) Processor Family PCI Express C
Version: 9.2.0.1026
Next
Intel® Installation Framework

Intel® Chipset Device Software
Intel® Chipset Device Software
Setup Progress
Please wait while the following setup operations are performed:
Installing Driver: Intel(R) 6 Series/C200 Series Chipset Family 2 port Serial ATA Storage Contr
Version: 9.2.0.1011
Installing Driver: Intel(R) 6 Series/C200 Series Chipset Family SMBus Controller - 1C22
Version: 9.2.0.1011
Installing Driver: Intel(R) 6 Series/C200 Series Chipset Family USB Enhanced Host Controller -
Version: 9.2.0.1021
Installing Driver: Intel(R) 6 Series/C200 Series Chipset Family USB Enhanced Host Controller -
Version: 9.2.0.1021
Click Next to continue.
Next
Intel® Installation Framework

Intel® Chipset Device Software
Intel® Chipset Device Software
Setup Is Complete
intel
You must restart this computer for the changes to take effect. Would you like to restart the computer now?
Yes, I want to restart this computer now.
No, I will restart this computer later.
Click Finish, then remove any installation media from the drives.
Finish
Intel® Installation Framework

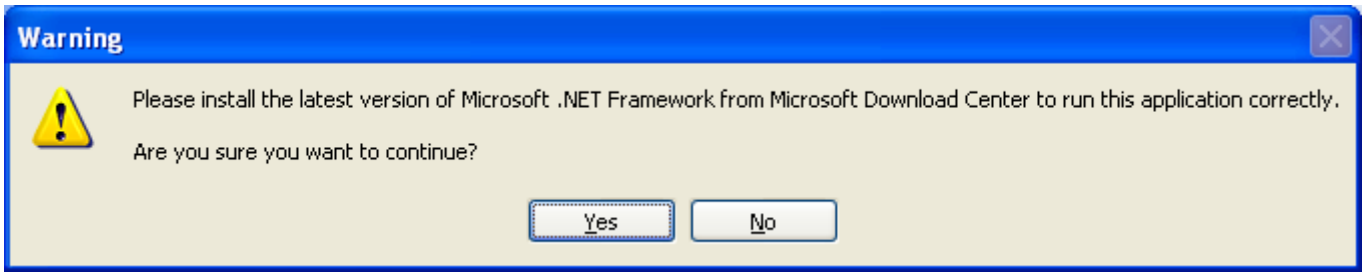
Click Finish, when the installation process is complete, the Setup Complete screen appears. See as picture.

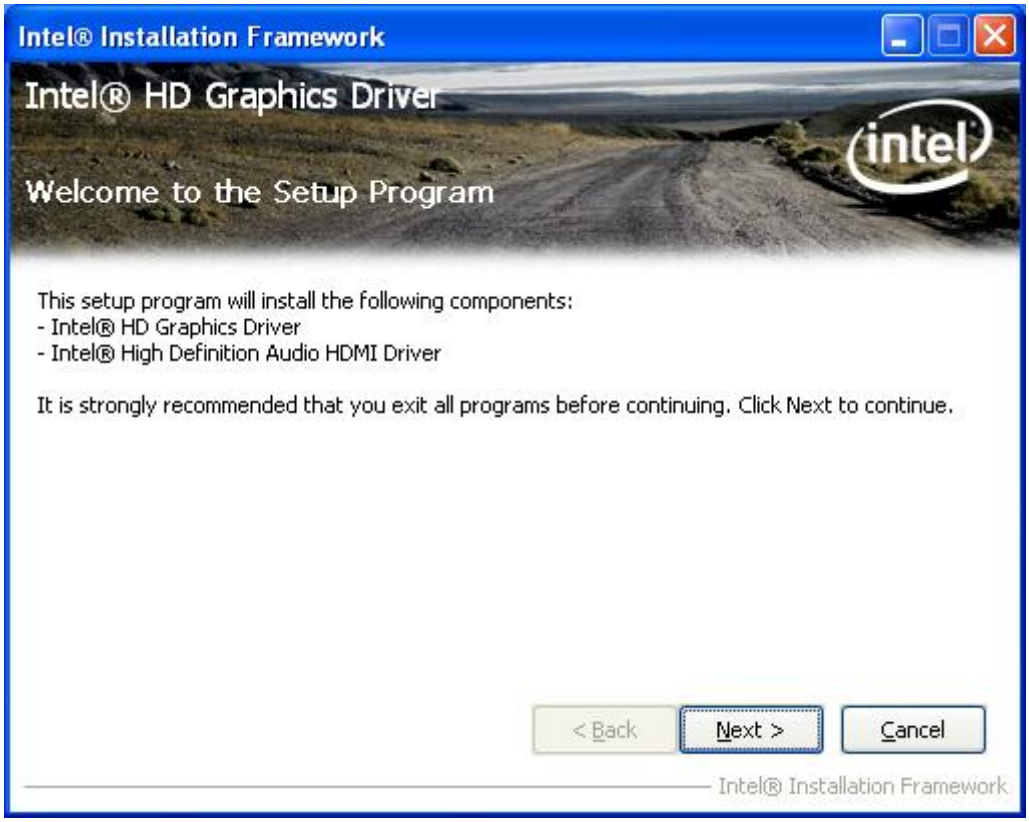
4.2 Intel VGA Chipset Driver

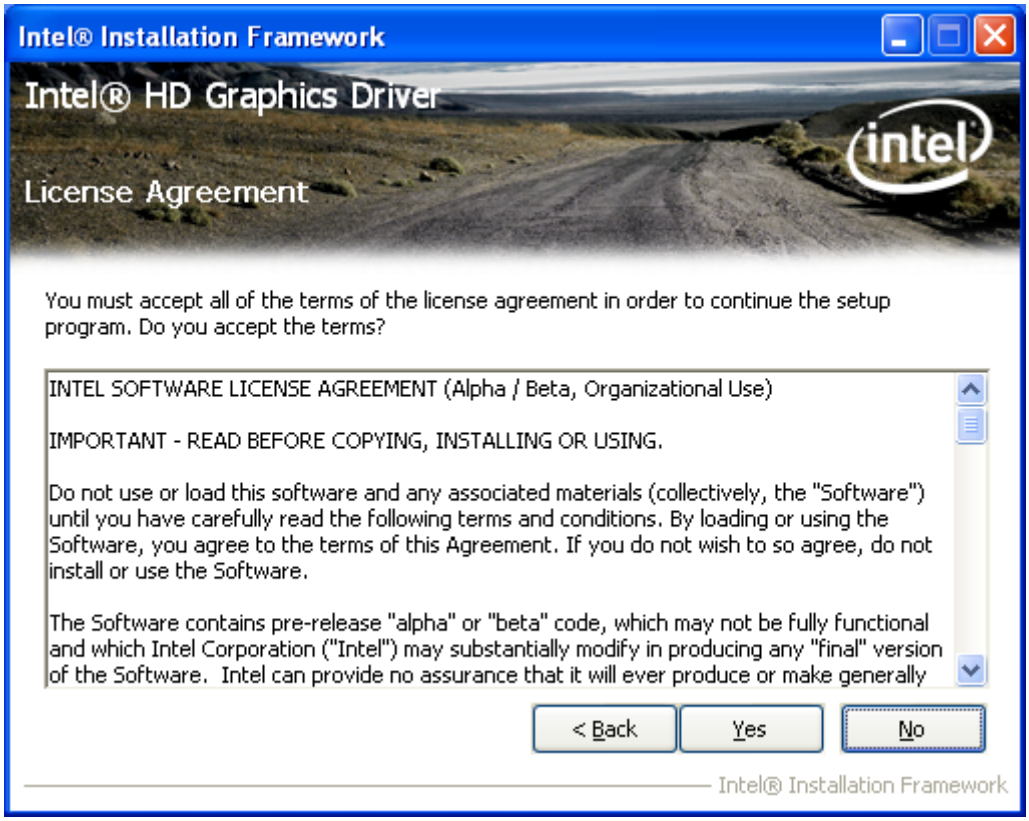
To install the VGA drivers, follow the steps below to proceed with the installation.

1. Click Intel VGA Chipset Driver.

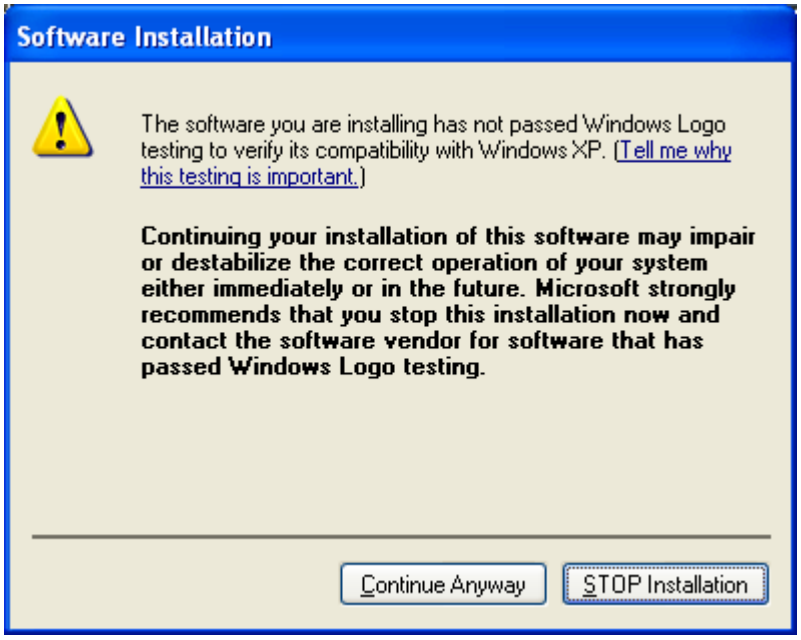
Follow the step-by-step installation process to install the Graphics Media Accelerator driver.

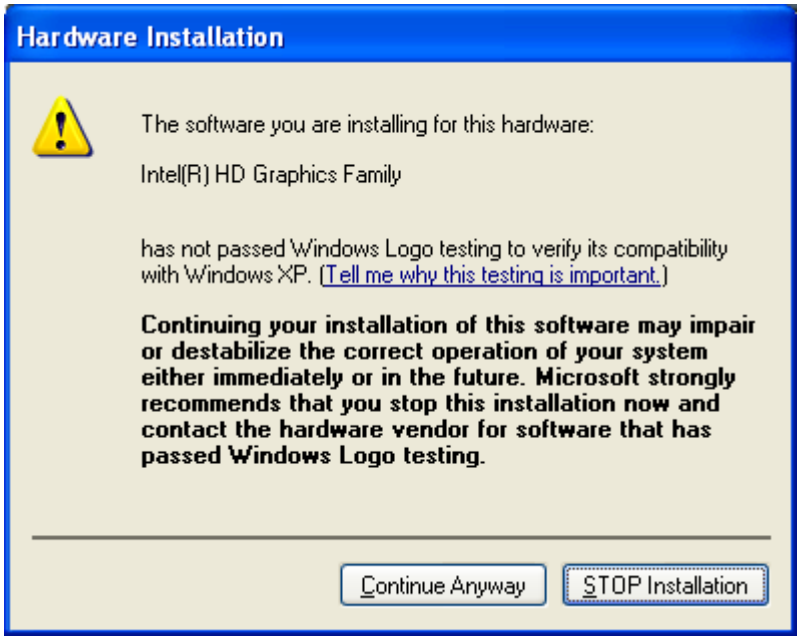

Warning
Please install the latest version of Microsoft .NET Framework from Microsoft Download Center to run this application correctly.
Are you sure you want to continue?
Yes
No

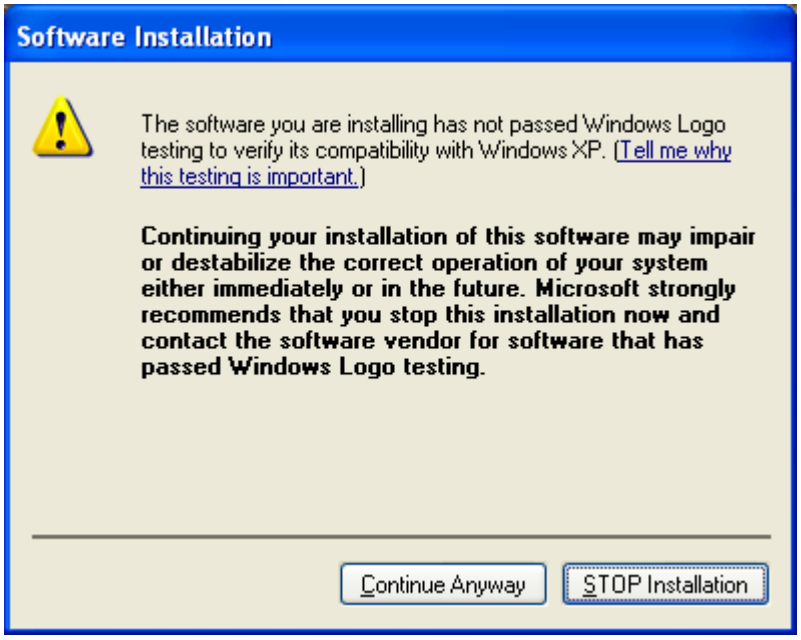

Intel® Installation Framework
Intel® HD Graphics Driver
Welcome to the Setup Program
intel
This setup program will install the following components:
- Intel® HD Graphics Driver
- Intel® High Definition Audio HDMI Driver
It is strongly recommended that you exit all programs before continuing. Click Next to continue.
< Back
Next >
Cancel
Intel® Installation Framework

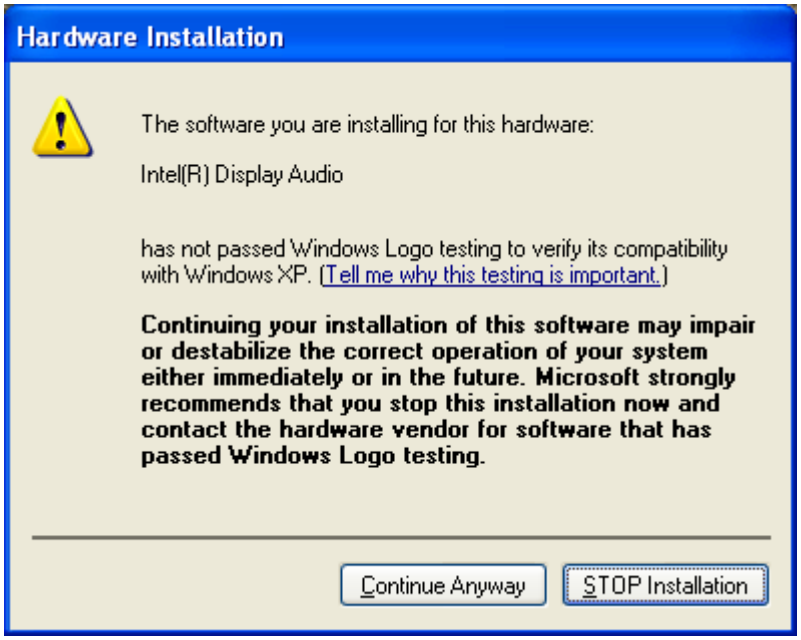

Intel® Installation Framework
Intel® HD Graphics Driver
License Agreement
You must accept all of the terms of the license agreement in order to continue the setup program. Do you accept the terms?
INTEL SOFTWARE LICENSE AGREEMENT (Alpha / Beta, Organizational Use)
IMPORTANT - READ BEFORE COPYING, INSTALLING OR USING.
Do not use or load this software and any associated materials (collectively, the "Software") until you have carefully read the following terms and conditions. By loading or using the Software, you agree to the terms of this Agreement. If you do not wish to so agree, do not install or use the Software.
The Software contains pre-release "alpha" or "beta" code, which may not be fully functional and which Intel Corporation ("Intel") may substantially modify in producing any "final" version of the Software. Intel can provide no assurance that it will ever produce or make generally
< Back
Yes
No
Intel® Installation Framework

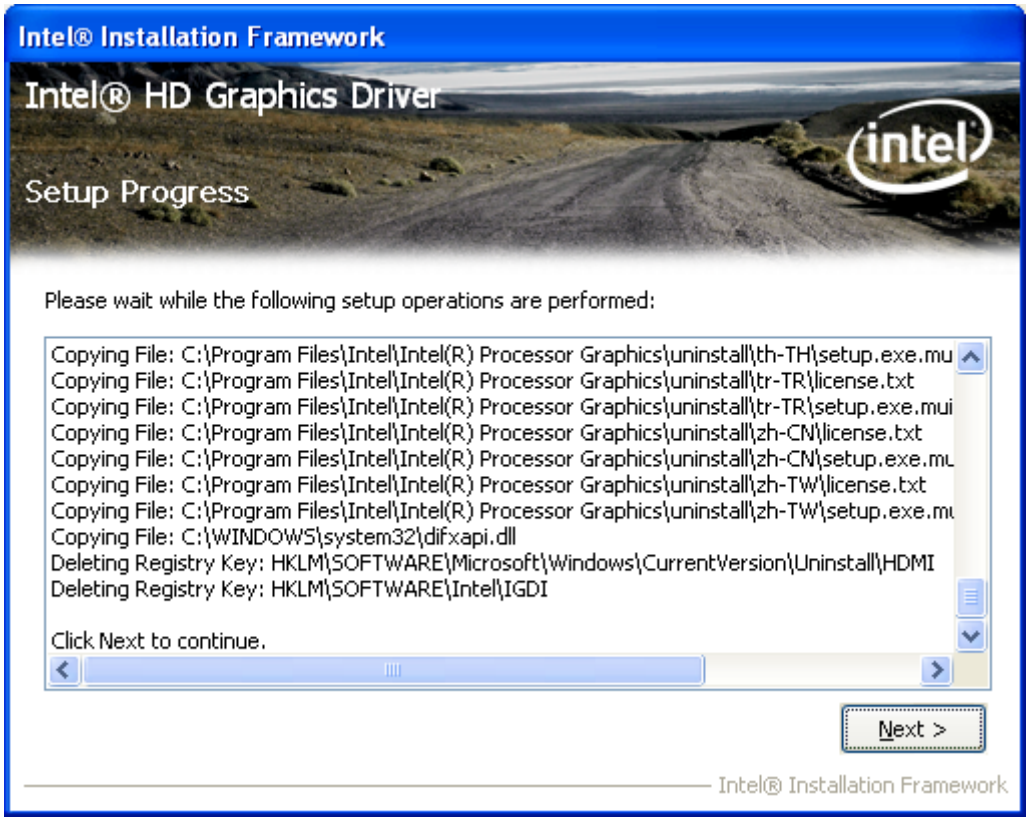
Intel® Installation Framework
Intel® HD Graphics Driver
Readme File Information
Refer to the Readme file below to view the system requirements and installation information.
**********XP**********
* Alpha/Beta/Production Candidate Releases
* Microsoft Windows* XP
* Package: 107891
* Graphics: 6.14.10.5305
* Display Audio Driver: 5.14.00.3072
< Back
Next >
Cancel
Intel® Installation Framework


Software Installation
The software you are installing has not passed Windows Logo testing to verify its compatibility with Windows XP. (Tell me why this testing is important.)
Continuing your installation of this software may impair or destabilize the correct operation of your system either immediately or in the future. Microsoft strongly recommends that you stop this installation now and contact the software vendor for software that has passed Windows Logo testing.
Continue Anyway
STOP Installation


Hardware Installation
The software you are installing for this hardware:
Intel(R) HD Graphics Family
has not passed Windows Logo testing to verify its compatibility with Windows XP. (Tell me why this testing is important.)
Continuing your installation of this software may impair or destabilize the correct operation of your system either immediately or in the future. Microsoft strongly recommends that you stop this installation now and contact the hardware vendor for software that has passed Windows Logo testing.
Continue Anyway
STOP Installation


Software Installation
The software you are installing has not passed Windows Logo testing to verify its compatibility with Windows XP. (Tell me why this testing is important.)
Continuing your installation of this software may impair or destabilize the correct operation of your system either immediately or in the future. Microsoft strongly recommends that you stop this installation now and contact the software vendor for software that has passed Windows Logo testing.
Continue Anyway
STOP Installation


Hardware Installation
The software you are installing for this hardware:
Intel(R) Display Audio
has not passed Windows Logo testing to verify its compatibility with Windows XP. (Tell me why this testing is important.)
Continuing your installation of this software may impair or destabilize the correct operation of your system either immediately or in the future. Microsoft strongly recommends that you stop this installation now and contact the hardware vendor for software that has passed Windows Logo testing.
Continue Anyway
STOP Installation


Intel® Installation Framework
Intel® HD Graphics Driver
Setup Progress
Please wait while the following setup operations are performed:
Copying File: C:\Program Files\Intel\Intel(R) Processor Graphics\uninstall\th-TH\setup.exe.mu
Copying File: C:\Program Files\Intel\Intel(R) Processor Graphics\uninstall\tr-TR\license.txt
Copying File: C:\Program Files\Intel\Intel(R) Processor Graphics\uninstall\tr-TR\setup.exe.mui
Copying File: C:\Program Files\Intel\Intel(R) Processor Graphics\uninstall\zh-CN\license.txt
Copying File: C:\Program Files\Intel\Intel(R) Processor Graphics\uninstall\zh-CN\setup.exe.mu
Copying File: C:\Program Files\Intel\Intel(R) Processor Graphics\uninstall\zh-TW\license.txt
Copying File: C:\Program Files\Intel\Intel(R) Processor Graphics\uninstall\zh-TW\setup.exe.mu
Copying File: C:\WINDOWS\system32\difxapi.dll
Deleting Registry Key: HKLM\SOFTWARE\Microsoft\Windows\CurrentVersion\Uninstall\HDMI
Deleting Registry Key: HKLM\SOFTWARE\Intel\IGDI
Click Next to continue.
Next >
Intel® Installation Framework

Intel® Installation Framework
Intel® HD Graphics Driver
Setup Is Complete
You must restart this computer for the changes to take effect. Would you like to restart the computer now?
Yes, I want to restart this computer now.
No, I will restart this computer later.
Click Finish, then remove any installation media from the drives.
Finish
Intel® Installation Framework

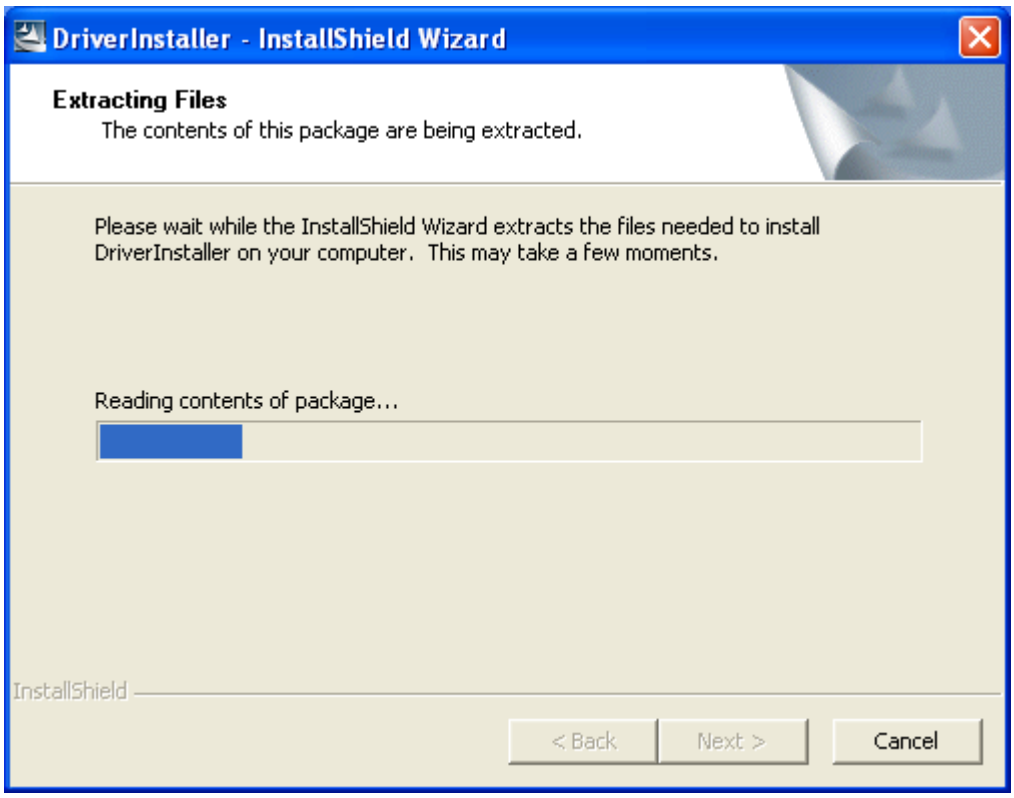
Click FINISH; A Driver Installation Complete.

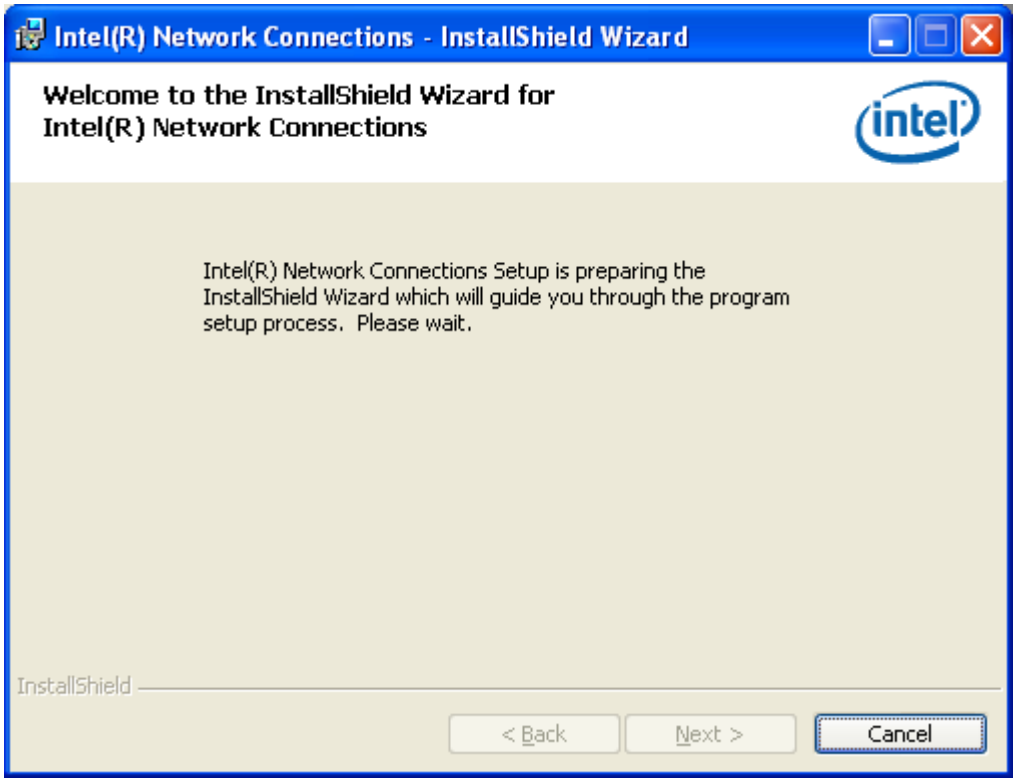
4.3 Intel 82574L Network adapter Driver

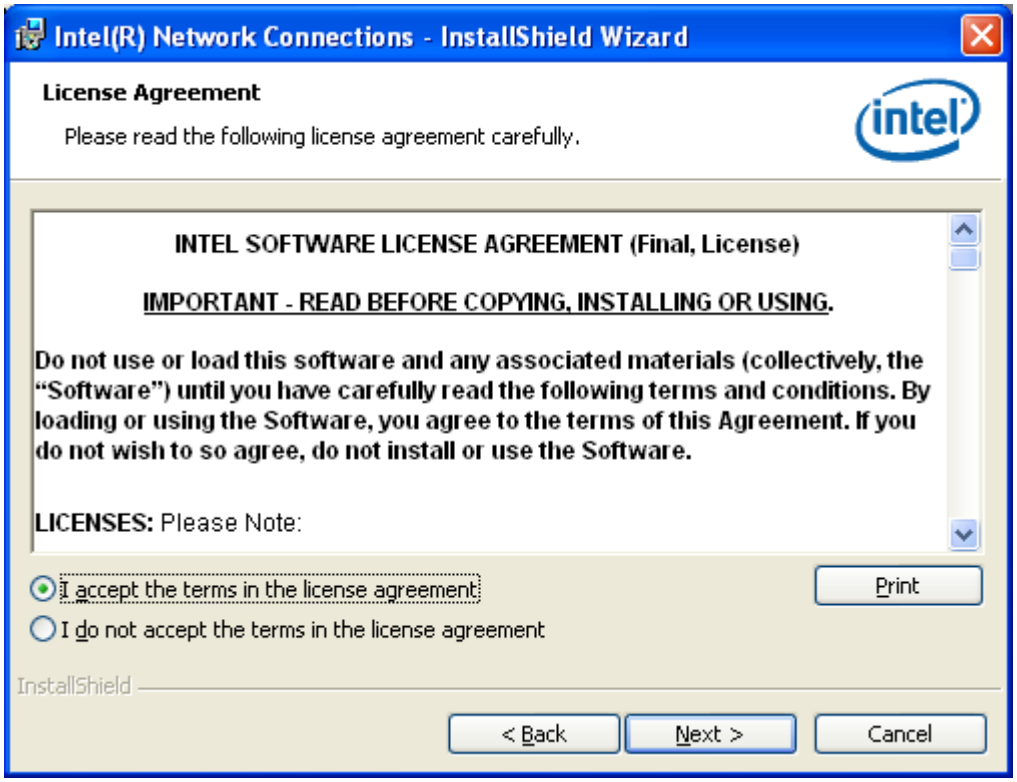
To install the Intel 82574L Network adapter Driver, please follow the steps below.

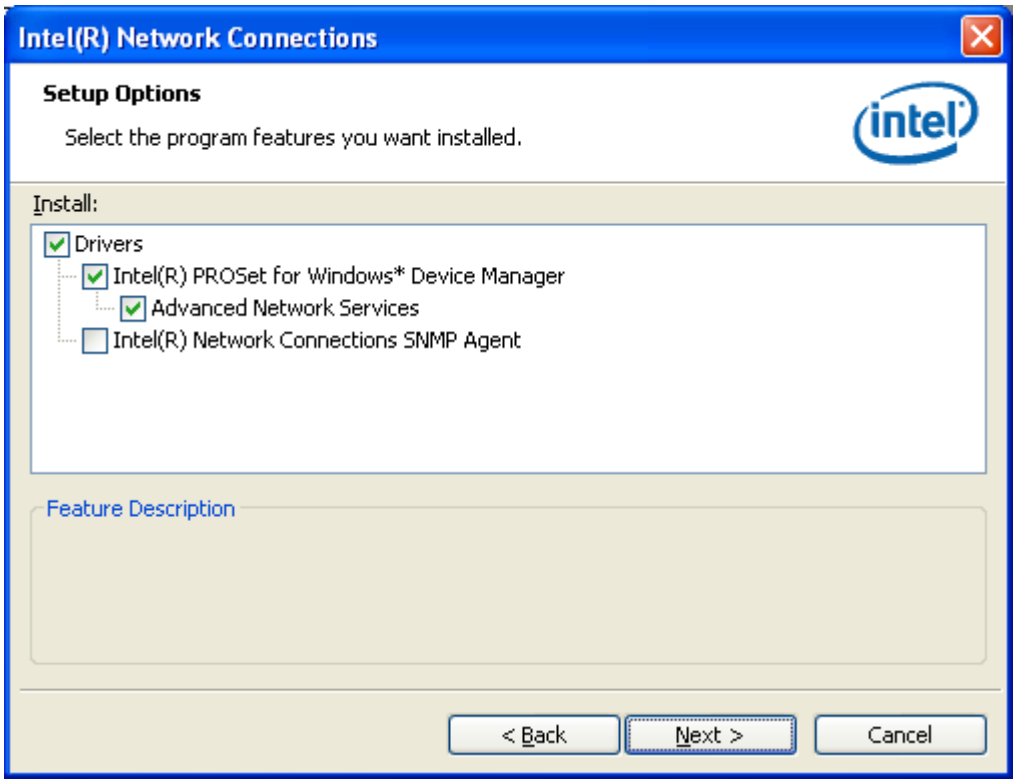
Select LAN from the list

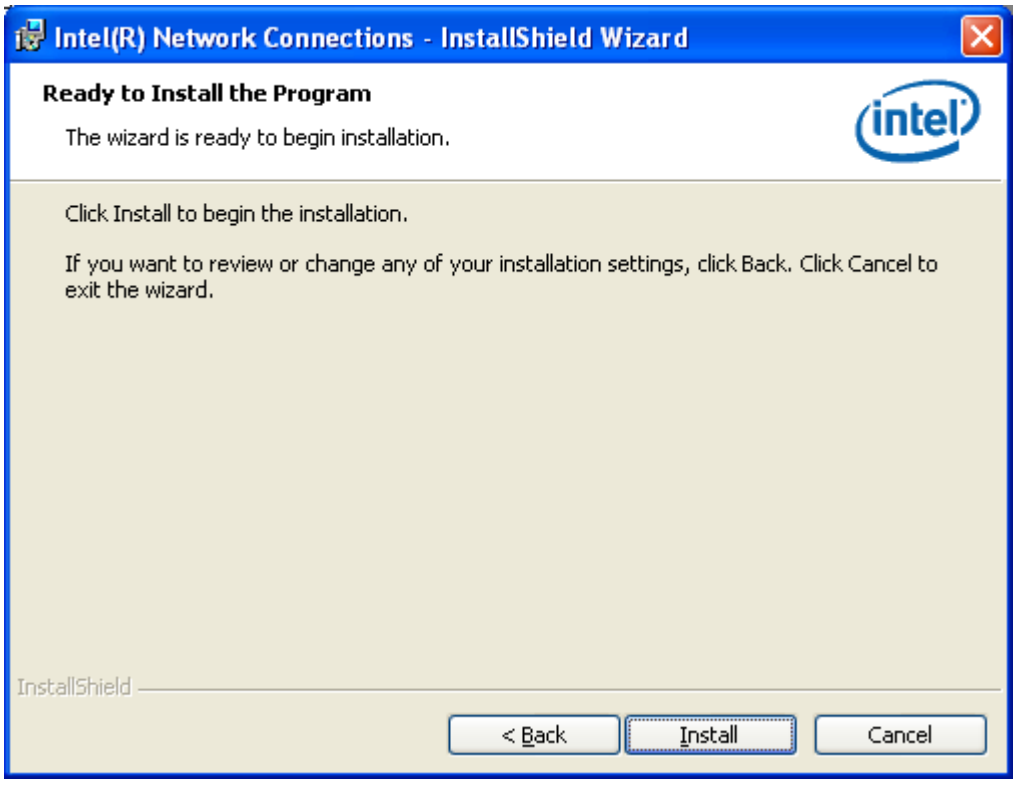
Follow the step-by-step installation process to install the LAN driver.

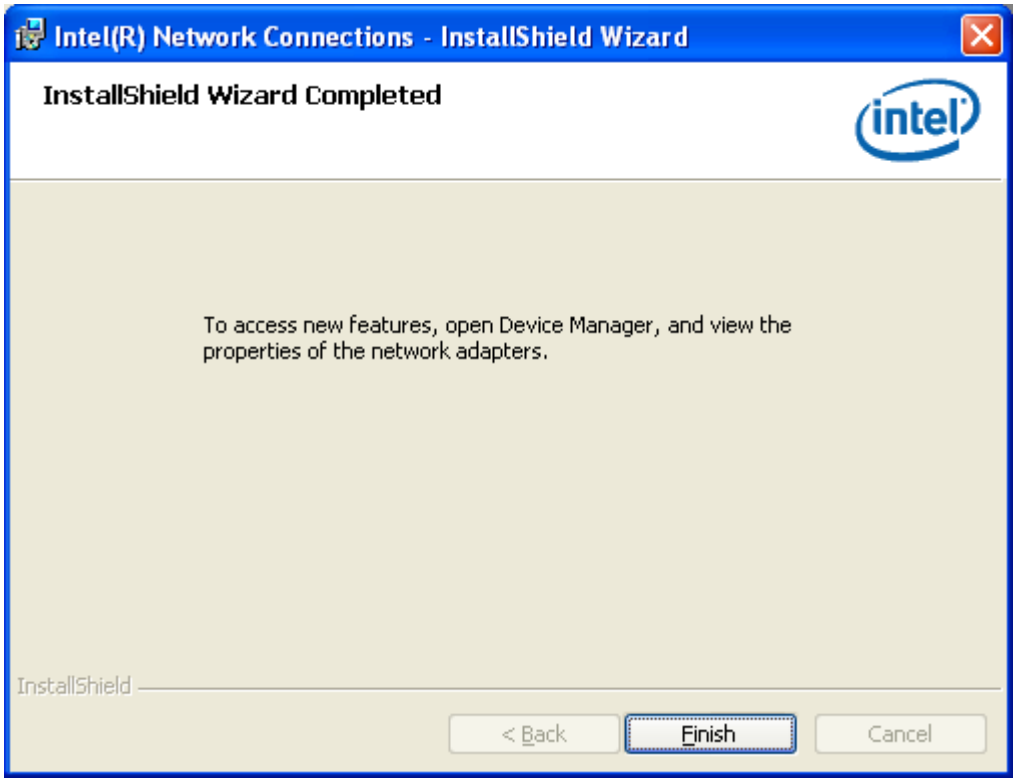

DriverInstaller - InstallShield Wizard
Extracting Files
The contents of this package are being extracted.
Please wait while the InstallShield Wizard extracts the files needed to install DriverInstaller on your computer. This may take a few moments.
Reading contents of package...
InstallShield
< Back
Next >
Cancel


Intel(R) Network Connections - InstallShield Wizard
Welcome to the InstallShield Wizard for
Intel(R) Network Connections
Intel(R) Network Connections Setup is preparing the
InstallShield Wizard which will guide you through the program
setup process. Please wait.
InstallShield
< Back
Next >
Cancel


Intel(R) Network Connections - InstallShield Wizard
License Agreement
Please read the following license agreement carefully.
INTEL SOFTWARE LICENSE AGREEMENT (Final, License)
IMPORTANT - READ BEFORE COPYING, INSTALLING OR USING.
Do not use or load this software and any associated materials (collectively, the "Software") until you have carefully read the following terms and conditions. By loading or using the Software, you agree to the terms of this Agreement. If you do not wish to so agree, do not install or use the Software.
LICENSES: Please Note:
I accept the terms in the license agreement
I do not accept the terms in the license agreement
Print
InstallShield
< Back
Next >
Cancel


Intel(R) Network Connections
Setup Options
Select the program features you want installed.
Install:
Drivers
Intel(R) PROSet for Windows* Device Manager
Advanced Network Services
Intel(R) Network Connections SNMP Agent
Feature Description
< Back
Next >
Cancel


Intel(R) Network Connections - InstallShield Wizard
Ready to Install the Program
The wizard is ready to begin installation.
Click Install to begin the installation.
If you want to review or change any of your installation settings, click Back. Click Cancel to exit the wizard.
InstallShield
< Back
Install
Cancel

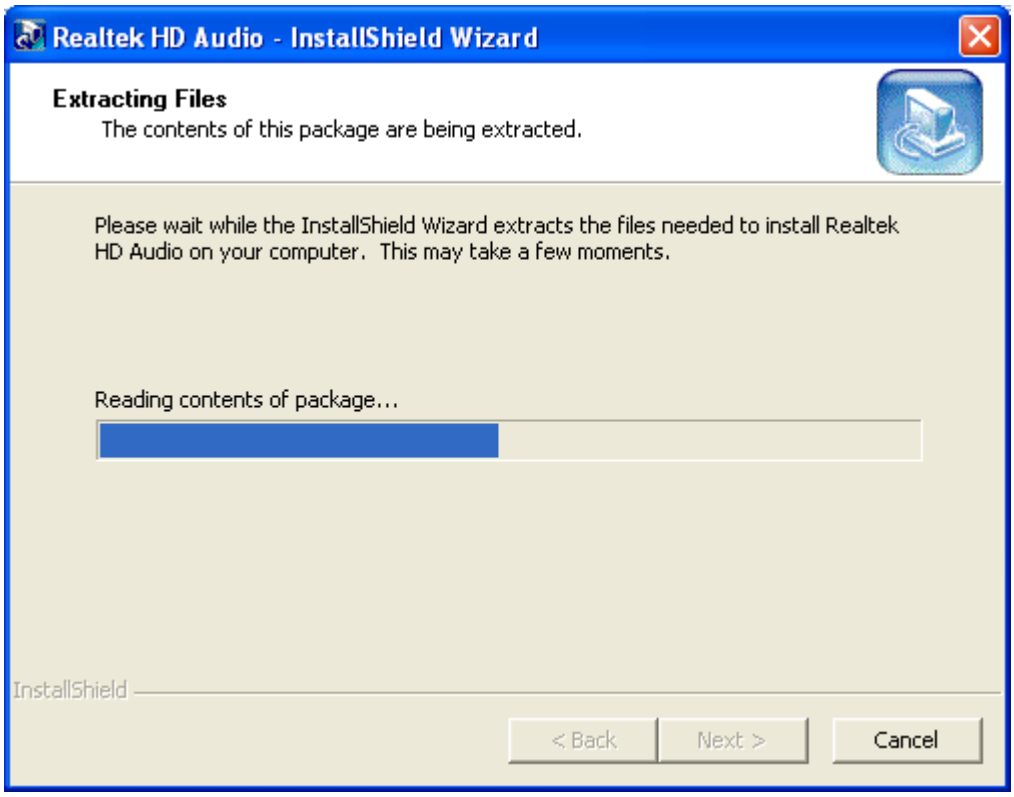


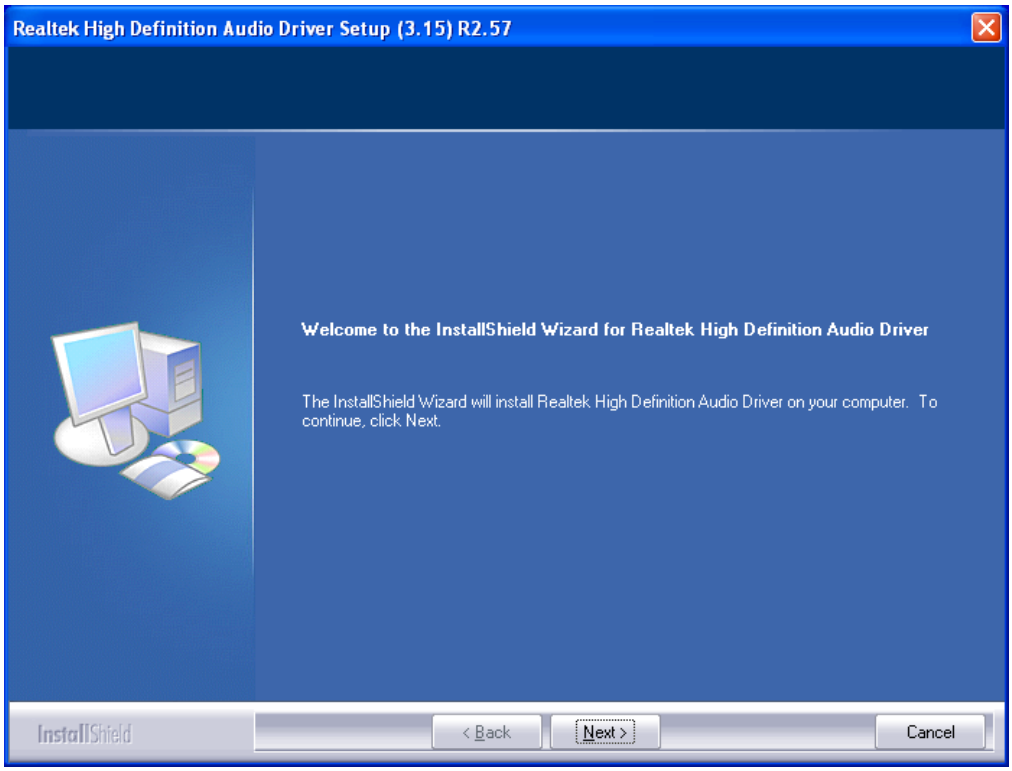
Click FINISH; A Driver Installation Complete.

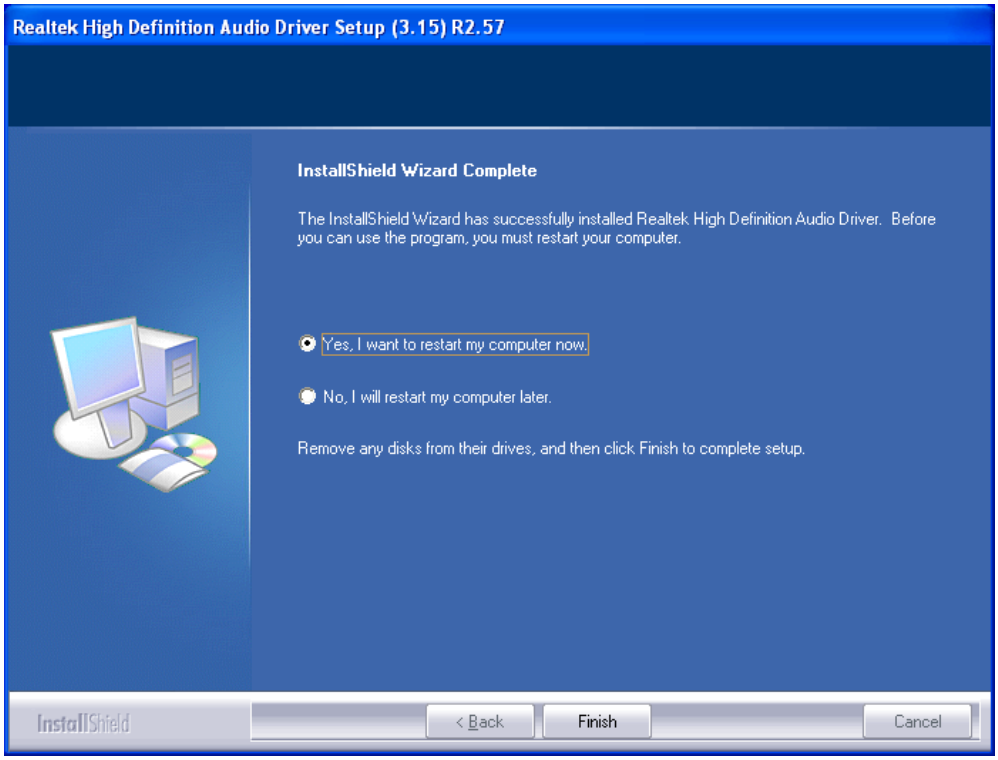
4.4 Realtek HD Audio Driver Installation

To install the Realtek High Definition (HD) Audio driver, please follow the steps below.
Select Audio from the list

Follow the step-by-step installation process to install the Realtek HD Audio driver.


Realtek HD Audio - InstallShield Wizard
Extracting Files
The contents of this package are being extracted.
Please wait while the InstallShield Wizard extracts the files needed to install Realtek HD Audio on your computer. This may take a few moments.
Reading contents of package...
InstallShield
< Back
Next >
Cancel

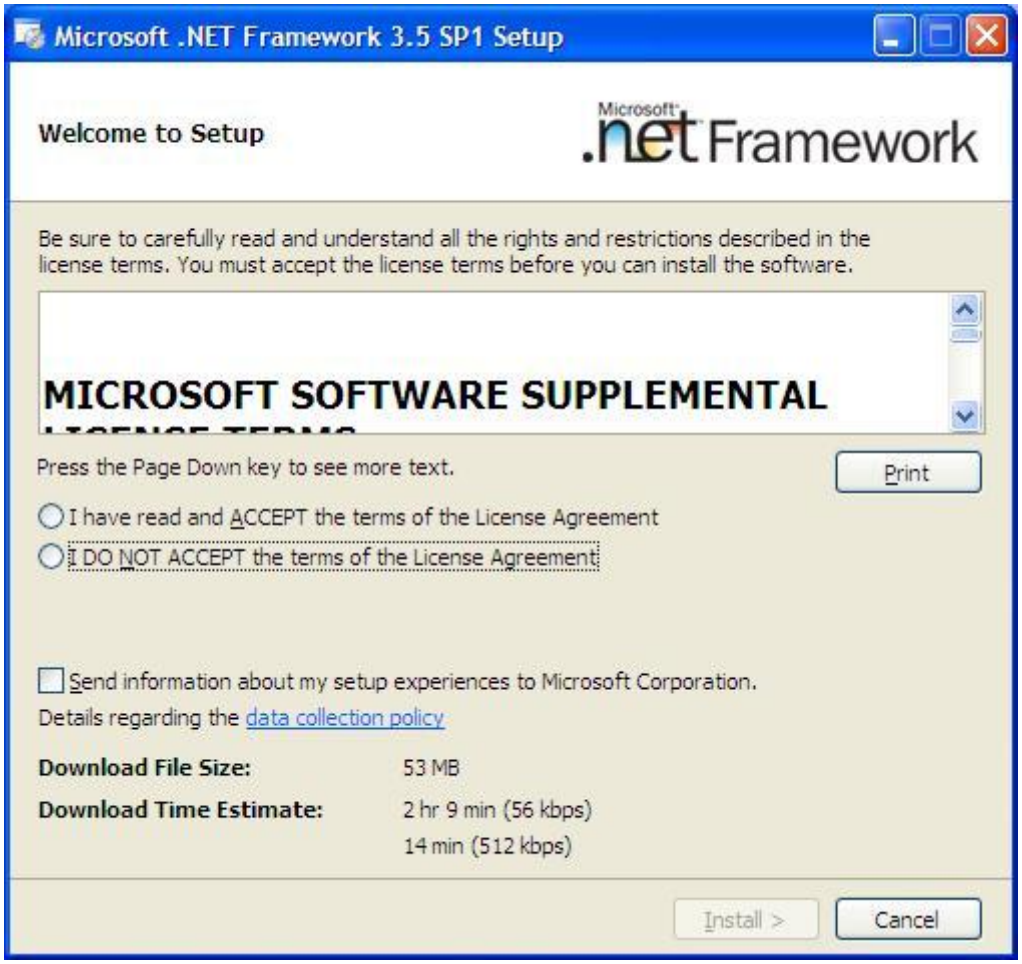

Realtek High Definition Audio Driver Setup (3.15) R2.57
Welcome to the InstallShield Wizard for Realtek High Definition Audio Driver
The InstallShield Wizard will install Realtek High Definition Audio Driver on your computer. To continue, click Next.
InstallShield
< Back
Next >
Cancel

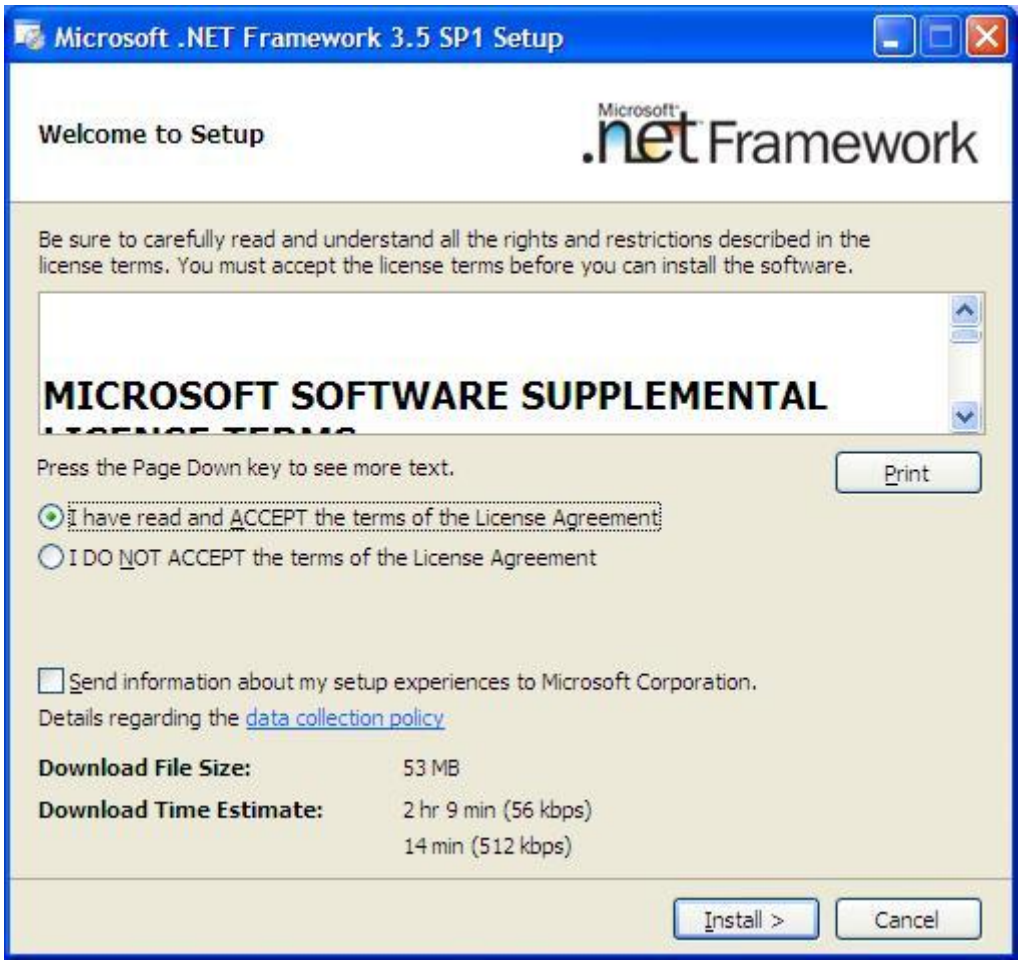

Realtek High Definition Audio Driver Setup (3.15) R2.57
InstallShield Wizard Complete
The InstallShield Wizard has successfully installed Realtek High Definition Audio Driver. Before you can use the program, you must restart your computer.
Yes, I want to restart my computer now.
No, I will restart my computer later.
Remove any disks from their drives, and then click Finish to complete setup.
InstallShield
< Back
Finish
Cancel

Click FINISH; A Driver Installation Complete.

4.5 Microsoft .NET Framework 3.5 Service Installation

To install the Microsoft .NET Framework 3.5 Service, please follow the steps below.


Microsoft .NET Framework 3.5 SP1 Setup
Welcome to Setup
Microsoft .net Framework
Be sure to carefully read and understand all the rights and restrictions described in the license terms. You must accept the license terms before you can install the software.
MICROSOFT SOFTWARE SUPPLEMENTAL
Press the Page Down key to see more text.
Print
I have read and ACCEPT the terms of the License Agreement
I DO NOT ACCEPT the terms of the License Agreement
Send information about my setup experiences to Microsoft Corporation.
Details regarding the data collection policy
Download File Size: 53 MB
Download Time Estimate: 2 hr 9 min (56 kbps)
14 min (512 kbps)
Install >
Cancel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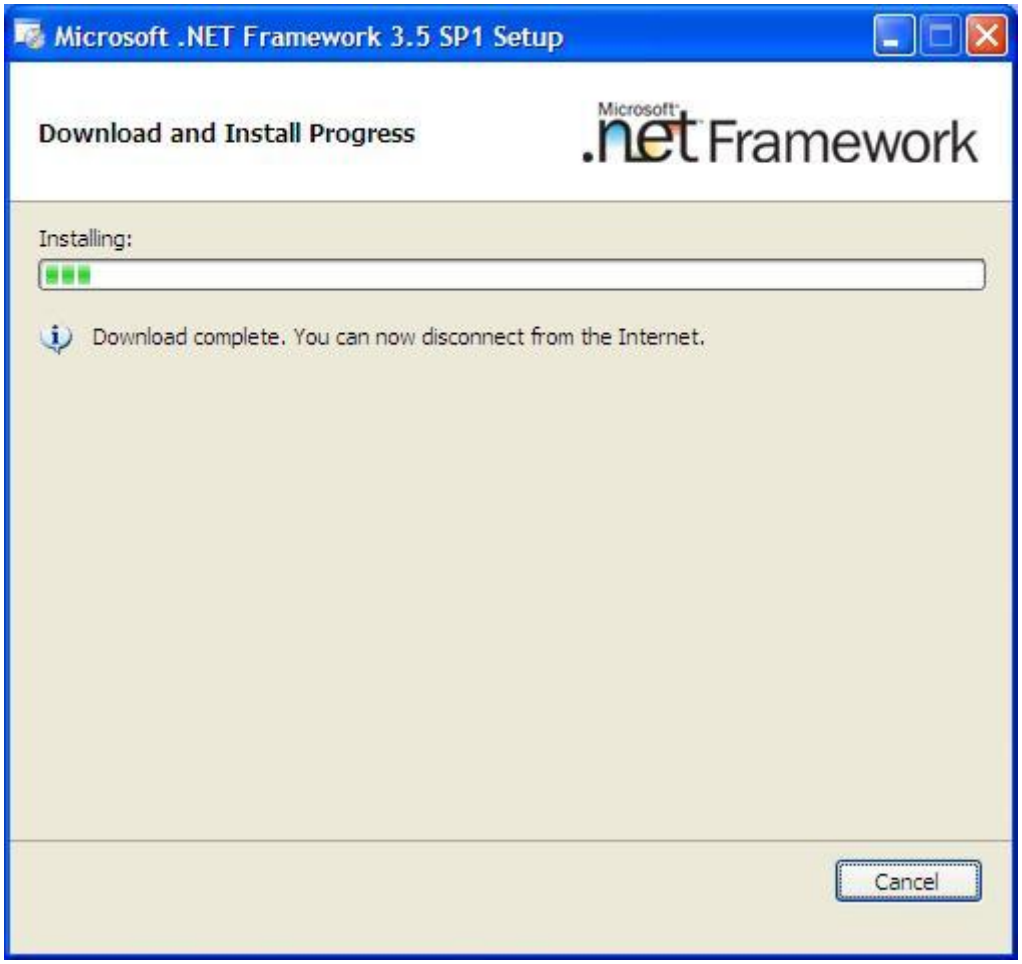
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